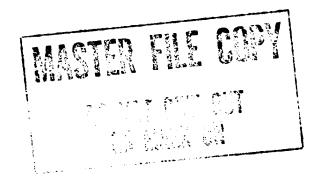
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Nordic Forces in the 1980s

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A Research Paper

Secret

EUR 84-10207

November 1984

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A Research Paper

This paper was prepared by
Office of European Analysis. Comments and queries are welcome and may be directed to the Chief,
European Issues Division, EURA,

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Summary

Information available as of 1 September 1984 was used in this report. Although their concern about the Soviet threat has increased in recent years, the Nordic countries have only a limited ability—without outside assistance—to defend themselves against a Warsaw Pact attack. Under a concept of in-depth homeland defense, which involves virtually the entire population, the Nordics maintain only small active forces in peacetime and are heavily dependent on rapid and timely mobilization of reserves. Moreover, inadequate training time, the slow pace of force modernization, and low stocks of missiles, ammunition, spare parts, and fuel have combined to degrade both readiness and sustainability.

We estimate the individual capabilities of the Nordic countries to be as follows:

- Norway has key weaknesses in ground-based air defenses, fighter and reconnaissance aircraft, and ammunition stockpiles, although it is improving its capabilities to receive and support NATO ground and air reinforcements.
- Denmark would have to depend almost entirely on Allied reinforcements because of its lack of personnel readiness, and it has only a limited capability to mine the Danish Straits.
- Because of their strategy of aggressive territorial defense, the Finns hope that potential aggressors will conclude that, in the long run, the costs of combating Finnish forces and securing Finnish territory would be too high. Although Finnish forces are too small to secure Finland's border, they probably would be effective in harassing Soviet forces en route to Norway and in disrupting Soviet supply lines.
- The Swedes probably could fend off a limited Warsaw Pact assault if they received sufficient warning. Sweden deploys the largest and best equipped ground forces of the Nordic countries, but the capability of its Air Force and Navy to meet an aggressor far beyond Swedish borders is declining.

Prospects for increased defense spending in Scandinavia are not good. In general, the Nordic countries are reluctant to insulate their defense budgets from financial cuts made necessary by general economic belt-tightening. Moreover, governments must divide limited defense funds between capital investments and expenditures for personnel and training.

Secret EUR 84-10207 November 1984 Personnel costs claim much of the defense budget in Norway, Denmark, and Sweden because military unions and social welfare laws mandate high salaries and overtime pay. As a result, force modernization almost certainly will continue to be hamstrung by insufficient funding.

Although Norway has one of NATO's highest projected annual real growth rates in defense spending (3.5 percent), high personnel costs—and political decisions not to overheat the economy with North Sea oil money—have restricted procurement funding to those programs with the greatest priority, such as air defense (the purchased F-16s and I-HAWKs), the prepositioning of equipment for NATO reinforcements, and submarine procurement. In Denmark, where social welfare spending has the highest priority, defense spending has stagnated since 1981 and will probably show little if any real growth for several years. In Sweden and Finland, the perceived needs to pursue an activist neutral foreign policy and to maintain stable relations with the Soviet Union combine with economic factors to constrain defense spending. Real growth in Swedish defense budgets probably will be close to zero through 1987, while Finnish real growth probably will amount to little more than 1 percent.

If Sweden and Finland—non-NATO states—fail to modernize their forces, their ability to resist a sustained Soviet offensive will suffer significantly. They could face the prospect of either yielding to Soviet pressures for transit or basing rights or submitting to Soviet occupation, thus markedly increasing the vulnerability of the NATO states in the region. There is a chance that Sweden could increase its security cooperation with the West if East-West relations in the region deteriorate, but it is doubtful that Sweden would go beyond seeking armaments cooperation agreements and limited joint wartime contingency planning.

Because the prospects are poor for substantial improvements in Nordic capabilities, NATO reinforcements to Norway and Denmark will be increasingly necessary to fill gaps in Nordic defenses. But a number of problems make it doubtful that reinforcements could be provided soon enough in sufficient numbers to be effective:

- Inadequate Norwegian, Danish, and NATO funding will continue to delay pre-positioning of equipment for reinforcements.
- All potential NATO reinforcing units except one Canadian brigade are tasked only provisionally to aid Norway and Denmark and could be needed elsewhere in a crisis, leaving NATO's northern flank vulnerable.
- The key reinforcing nations of Canada, the United Kingdom, and the Netherlands face economic problems of their own that threaten their capability to aid Norway or Denmark.

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Thus, Norway and Denmark may increasingly expect the United States to provide military assistance before or during a crisis. The air- and ground-based firepower that US Marines would bring to Norway would be invaluable both as a deterrent and as a symbol of US commitment. Unlike other NATO reinforcements, the Marines also would bring transport and ground support aircraft and helicopters. Oslo and Copenhagen also are likely to seek greater US funding assistance for pre-positioning efforts, especially for US Air Force reinforcements under the Colocated Operating Bases Program.

Deficiencies in Nordic antitank and air defense weapons, in mine warfare vessels, in defense against chemical-biological-radiological weapons, and in reserve training will continue to undermine the viability of a conventional defense of Scandinavia. At the same time, antinuclear sentiment in the Nordic countries hampers the application of NATO's doctrine of flexible response in the region. Consequently, NATO could well find itself unable to stop a Warsaw Pact advance through Scandinavia because of insufficient or nonexistent preparations for both conventional and nuclear defense. NATO reinforcements moving into Norway and Denmark in time of war probably would have the capability to deliver tactical nuclear weapons; however, if the Danish and Norwegian Governments prohibited the use of such weapons, NATO would be faced with the prospect of the collapse of its northern flank.

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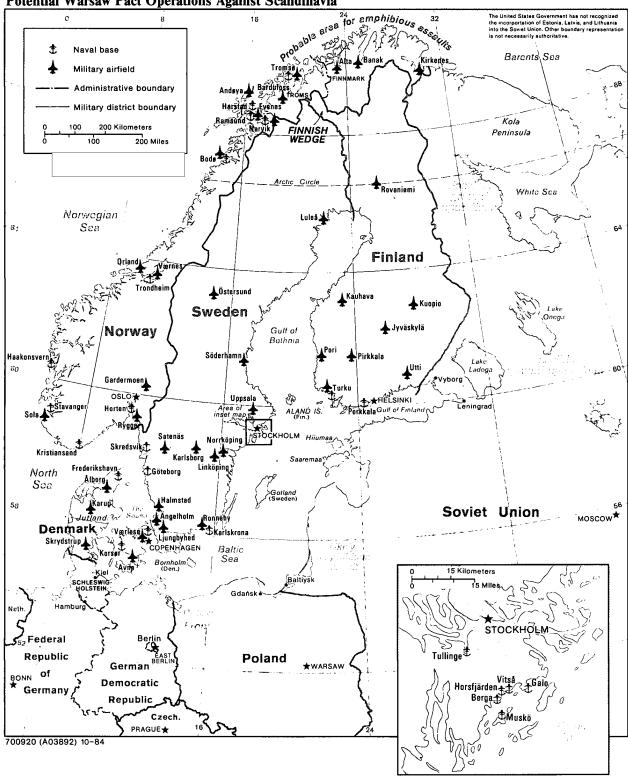
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Nordia Foress		
Nordic Forces in the 1980s		25 X 1
World War II taught the Nordics ' that neutrality, unless backed by substantial armed strength, is ineffective protection whenever "great power" interest turns to Scandinavia. For Norway and Denmark, the	conjunction with an invasion of Central Europe, two major Soviet objectives would be to protect the flanks of the Soviet Northern Fleet while attempting to achieve control over the Norwegian and Barents Seas and to deny NATO use of its bases in northern	
Soviet threat after 1945 was sufficiently clear that	Norway. We expect the Soviets would move on the	
they abandoned their traditional neutrality and joined	bases either by direct assault across the Soviet-	0EV4
NATO. Sweden chose to keep out of superpower alliances and build its own credible defense. Finland	Norwegian border or through Finland.	25 X 1
signed a mutual assistance treaty with the USSR but	In exercises conducted by the Soviets, their forces	
also signaled its intention to use force against any aggressor.	routinely simulate entering Finnish territory to engage NATO forces, suggesting that the USSR would	25X1
Wille the Needle countries have drawn different	violate Finnish territory in a real engagement if Moscow considered it a military necessity. We have	
While the Nordic countries have drawn different conclusions from their recent history, there is an	not seen the Soviets use an exercise scenario in which	
underlying interdependence in their defense policies.	their forces go through Sweden to reach the Atlantic, but we believe they might do so in wartime, particu-	
Defense planners in both Norway and Denmark expect Finland and Sweden to delay initially a Soviet	larly if their advance in northern Finland and Norway	
advance. The Swedes and Finns stress peacetime	were impeded.	25 X 1
neutrality and wartime nonbelligerency, yet defense planning in both countries assumes that their territory	Norwegian officials believe that the area of the	
would be violated in an East-West military confronta-	greatest Soviet threat is the northern province of Troms, where most of Norway's standing forces are	25 X 1
tion.	deployed and important airfields and ports are located	23/1
Descriptions of the Threat	(see figure 1 and inset, "Norway and Denmark: Views of an Increased Soviet Threat"). Soviet operations in	
Perceptions of the Threat	this region would be designed to occupy the coast as	
All four Nordic countries see themselves becoming	far south as Narvik and to seize, or deny NATO the	
peripherally involved in a NATO-Warsaw Pact war that would have Central Europe as its main battle-	use of, the airfields at Kirkenes, Banak, Alta, Tromso, Bardufoss, Andoya, Narvik, and Bodo. Oslo also	
ground. Norway, Sweden, and Finland envision a Soviet offensive out of the Leningrad Military District	anticipates major airborne and amphibious assaults along the coast in addition to ground operations out of	
and Kola Peninsula into northern Norway. The Danes	the so-called Finnish Wedge.	25 X 1
envision a Warsaw Pact campaign by Polish and possibly Soviet forces on the ground into the Jutland	Central and southern Norway are of less strategic	
Peninsula in conjunction with amphibious and air	importance than the north, although both contain key	
assaults across the Baltic Sea (see figure 1).	targets: central Norway is the major reception area for NATO reinforcements and a transit area for	25 X 1
Threat to the North	troops and supplies moving north; southern Norway is	
Neither the Finns nor the Swedes believe their countries would be primary targets in a NATO-Warsaw	adjacent to the Baltic exits to the North Sea and Atlantic Ocean, is heavily populated, and contains a	
Pact conflict. Nonetheless, both recognize that, in	large concentration of industry and important mili-	0EV4
For the purposes of this paper, the terms "Scandinavia" and	tary installations.	25 X 1
"Nordics" refer to Norway, Denmark, Sweden, Finland, and Greenland. Greenland is not discussed in detail in this paper		
because its defense policy is controlled by Denmark. Iceland, although considered part of Scandinavia, is not discussed because it		
has no defense forces.	Secret	25 X 1
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Norway and Denmark: Views of an Increased Soviet Threat

Oslo's perception that the Soviet threat is increasing is based on new deployments and upgrading of Soviet forces on the Kola Peninsula, as well as on periodic Soviet activities that Norway considers intimidating. These activities include:

- Soviet naval exercises in the Baltic and Norwegian Seas, including the most comprehensive naval exercise to date by the Northern and Baltic Fleets, in late March and early April 1984.
- Intrusions by submarines and minisubmersibles, presumed to be Soviet, into Norwegian and Swedish waters.
- Major flights of Backfire bombers over the Norwegian Sea in 1981, 1982, and 1984, maneuvering just outside of Norwegian airspace.
- Intransigent behavior by the Soviets regarding their treaty rights in the Svalbard Archipelago.
- Soviet resistance to reaching agreement on jurisdictional boundaries on the continental shelf in the Barents Sea.

Copenhagen is concerned over the growth in Soviet air and naval activity in recent years. Danish officials have noted:

- Soviet reinforcement of its Baltic Fleet with nuclear-armed submarines.
- Soviet amphibious landing exercises in areas geographically similar to the Danish coastline.
- Gradual movement of Warsaw Pact air and naval activity westward and into the North Sea.
- Stationing of Pact amphibious troop units along the Baltic Sea coast.
- Construction of new facilities or expansion of old ports along the Warsaw Pact coastline in the Baltic.
- Suspected intrusions by Soviet minisubmersibles into Swedish waters.

Soviet forces (see table 1) could move into southern Finland in the direction of Helsinki both to deny this area to NATO forces and to protect the exit from the Gulf of Finland into the Baltic. An invasion of southern Sweden, either by ground forces from the north or by amphibious/airborne forces out of the

Baltic Military District, is less likely but might be attempted—particularly in conjunction with operations against Denmark—to gain control of the Oresund Strait, the only strait not controlled exclusively by Denmark (see figure 1).

Soviet air operations by fighter-bomber and reconnaissance aircraft in Norway, Finland, and Sweden probably would primarily support ground operations into northern Norway or Finland and into southern Finland. The small size of the peacetime Soviet ground attack force, its base area in the southwest, and the presence of large numbers of fighter-interceptors indicate that the primary emphasis in such an invasion would be on defensive air operations. Nonetheless, the Soviets could use Strategic Aviation bombers to destroy or suppress land-based NATO air defense forces in southern and central Norway, primarily to clear a path for naval aircraft flying against NATO carrier forces and submarines in the Norwegian Sea.

Threat to Denmark

Denmark anticipates that, if the Soviets invade Western Europe, they will attempt to dominate the Baltic and North Seas and their approaches. The invasion would include ground, amphibious, and airborne operations against the Jutland Peninsula and Danish islands and naval operations in the western Baltic. The Danes believe the Soviets would use captured airbases on Jutland to attack North Atlantic convoys and other parts of Western Europe.

We believe the major responsibility for operations against the Danish forces in northern West Germany and on the Jutland Peninsula would fall to the Polish ground forces—the 1st Army out of Pomerania and the 2nd Army out of Silesia—possibly supported by Soviet ground forces from the Baltic Military District and some East German forces (see table 2). Key objectives would be to isolate Hamburg and then move north seizing the Kiel Canal, the Jutland Peninsula, and the Danish Straits.

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Table 1 Norway, Sweden, Finland, and the USSR: The Relative Status of Forces

	Norway	Sweden	Finland	USSR a
Ground forces manpower				
Peacetime	17,900	45,700	34,300	47,500 b
M+15	147,000 +75,000 Home Guard	600,000 +110,000 Home Guard	200,000	131,200 b
Maneuver brigades/regiments				
Peacetime	1 brigade+	32 training regiments	8 brigades 6 regiments	47 regiments 2 brigades b
M+15	13 brigades+	29 brigades +	8 brigades 6 regiments	47 regiments 2 brigades b
Tanks, light and medium	218	1,085	204	1,600
Artillery, 100 mm and larger	396	943	1,284	1,400
Armored personnel carriers and infantry fighting vehicles	222 °	912 °	114°	2,640
Combat aircraft				
Interceptors	30 d	195 d	55 d	360
Fighter-bombers/ground attack	42 d	226 ^d	85 d	2,594 •

Note: M+15-Fifteen days after mobilization begins.

d Includes aircraft with a primary role as interceptors or fighterbombers/ground attack aircraft and also includes trainer aircraft that have secondary roles in those missions.

Ground operations in northern Germany and Jutland would be coordinated with airborne/amphibious operations against the Danish Straits. The Danish island of Bornholm probably would be an initial target

After gaining control of the Straits, amphibious forces could be available for landings in other areas, such as in southern Norway. Assault forces would be composed of Soviet, Polish, and some East German troops trained in amphibious assault, including the Soviet Baltic Fleet naval infantry brigade at Baltiysk and the Polish sea landing division at Gdansk.

Defense Policy, Strategy, and Force Posture

The defense strategies and force postures of the Scandinavian countries reflect their inability or unwillingness to maintain large standing forces in peacetime. In a crisis, the Nordics would rely on rapid mobilization of reservists; Norway and Denmark would depend on NATO reinforcements also. Nordic defense strategists take advantage of geography, terrain, and climate in their planning, and all four countries—but especially Sweden and Finland—have in-depth homeland defense programs that would involve virtually the entire populace of their countries.

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^a Additional resources would be provided by the Soviet Northern Fleet and sea landing assets-naval infantry.

^b The manpower and unit numbers reflect maneuver units with the addition of an artillery division.

c Includes mortar carriers with 81-mm or larger guns and armored command posts.

e Includes 74 land-based medium bombers configured for antiship strikes and 31 VTOL fighter-bombers from Northern Fleet naval aviation.

Table 2
Denmark and the Warsaw Pact:
The Relative Status of Forces

	Denmark	Warsaw Pact a
Ground Forces manpower		
Peacetime	17,900	56,800 (Note: Polish forces only)
M+15	72,000 71,300 (Note: Polish forces o + 60,000 Home Guard	
Maneuver brigades/regiments		
Peacetime	3 brigades+	23 regiments (six divisions) 4 airborne battalions
M+15	6 brigades+	27 regiments (seven divisions) 4 airborne battalions
Tanks, light and medium	379	1,450
Artillery, 100 mm and larger	393	350
Armored personnel carriers and infantry fighting vehicles	553 b	1,550
Combat aircraft	-	
Interceptors	36 °	831 d
Fighter-bombers/ground attack	60 c	624°; 135 f

Note: M+15 = Fifteen days after mobilization begins.

^a This assumes a purely Polish front on the Jutland axis. If Polish forces run into difficulty, the Soviets would most probably provide assistance from the Baltic and/or Belorussian Military Districts. If the Soviets were to commit elements of a tank army, they would increase the status of forces accordingly:

Manpower:

+60,000 peacetime; +16,000 at M+15.

Tanks:

+1,050.

Artillery:

+500.

Armored personnel carriers: +850.

^b Includes mortar carriers with 81-mm or larger guns and armored command posts.

c Includes aircraft with a primary role as interceptors or fighter-bombers/ground attack aircraft and also includes trainer aircraft that have secondary roles in those missions.

^d Soviet interceptor aircraft in Poland, East Germany, and the Baltic Military District.

c Soviet fighter-bombers in Poland, East Germany, and the Baltic Military District.

f Soviet Baltic Fleet naval aviation, including 97 land-based medium bombers configured for antiship strikes and 38 fighter-bombers.

Although there is a great disparity in peacetime between Warsaw Pact forces in the Jutland area and those in the far north (see tables 1 and 2), in general the force posture of the Pact in the Nordic region has substantial advantages.2 Soviet and Pact forces, although at reduced strength in peacetime, have active combat units, support structures, and a command, control, and communications infrastructure that are fully established and exercised frequently. The Nordic countries, on the other hand, have far smaller standing combat forces and only a limited support infrastructure in peacetime. The Nordics would require substantial mobilization of reserves to defend themselves. Their capabilities are further constrained by cutbacks made for budgetary reasons in reserve training programs (see table 3).

After mobilization, Pact forces would still have an overall advantage in combat forces, but they would have to contend with large Home Guard and local defense forces in all four Nordic countries. These forces would fight in their own neighborhoods, using stockpiled weapons and equipment. They thus would be familiar with terrain and key installations (military facilities, roads, bridges, and so forth) and could be expected to mount a fierce defense. Nevertheless, the capabilities of these forces are limited and the successful defense of Norway and Denmark is dependent on rapid NATO reinforcement (see table 4). For their part, both neutral Sweden and Finland count on their well-publicized determination to defend their territorial integrity with all means at their disposal to deter potential aggressors.

In general, the armed forces of the Scandinavian countries have shown similar trends over the past decade. Overall manpower levels have remained stable (Finland and Norway) or have declined (Sweden and Denmark) (see figure 2). The ground forces have

² Different organizational structures preclude a direct comparison of Nordic and Soviet ground-combat maneuver units. Soviet ground forces are organized into 11 divisions, including an airborne division, each with four maneuver regiments. Norwegian forces do not have an operational division structure. Norway's maneuver forces are organized into independent brigades, battalions, and companies of varying sizes. Finland's eight brigades probably would be subordinate to two field army headquarters and five army corpsheadquarters. Sweden would have 26 brigades subordinate to about 10 divisions, plus three independent brigades. Upon mobilization, five of Denmark's six brigades would form two divisions, with the sixth brigade deploying independently. Most Danish, Norwegian, Swedish, and Finnish units are either inactive or are manned at extremely low levels in peacetime.

improved their antiarmor capabilities but still lack adequate air defenses. Air Force fighters have declined in number as the Nordic states have procured fewer new fighters—with advanced weapon systems and an all-weather capability—to replace older, less capable aircraft. The number of large naval vessels in their fleets also has declined, and increasing emphasis has been placed on missile attack boats and (except for Finland) on submarines.

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NATO Members: Norway and Denmark

Norway and Denmark have pivotal roles in NATO's Northern Flank strategy, which recognizes that maintaining the integrity of the Nordic region is critical to the successful defense of Central Europe. Both countries rely on universal conscription, small standing forces, readily mobilized reserves, and the promise of NATO reinforcements.

Defense Policy and Strategy. Norway's location makes the country essential to NATO's maritime strategy of protecting the Alliance's ability to reinforce and resupply Europe by denying Soviet naval forces access to the Norwegian Sea and the North

NATO AWACS 4 aircraft also began flying from an airbase in central Norway in 1984. Norwegian forces, therefore, are expected to hold Norwegian territory until Allied reinforcements arrive, and to provide for the reception, protection, and support of those reinforcements.

Denmark's strategic position at the mouth of the Baltic dictates a strong Danish role in containing the Soviet Baltic Fleet and other Warsaw Pact naval units

Airborne warning and control system.

6

Atlantic.

Table 3
Conscript Service Time and
Reserve Refresher Training

	Norway	Sweden	Finland	Denmark
Conscript service period				
Army	12 months	7.5 to 10 months	8 to 11 months	9 months
Navy	15 months 12 months for Coast Artillery	9 to 15 months	8 to 11 months	9 months
Air Force	12 to 15 months	9 to 15 months	8 to 11 months	9 months
Reserve refresher training				
Army	18 days every 4 years	18 days every 4 years	36,000 to 40,000 men per year ^a	Infrequent 14-day periods for armored infantry units, five-day periods for combat and support personnel
Navy	21 days every 3 years	Equivalent of 18 days every 4 years ^b	Minimal	Minimal
Air Force	Minimal	18 days every 4 years	Minimal	Minimal

<sup>Refresher training for Finnish reservists is limited by the Paris Peace Treaty (1947), which requires reservists on active duty to be counted against the total authorized strengths of the Finnish Defense Forces (Army: 34,400; Navy: 4,500; Air Force: 3,000).
Five periods of refresher training, each lasting 18 days, taken from about age 20 to age 47.</sup>

and amphibious forces in the area. Danish forces—together with those of West Germany—have the

mission of mining the Straits, defending Danish territory until NATO reinforcements arrive, and providing the bulk of the defense of Schleswig-Holstein, thereby securing the Northern Flank of NATO's Central Region and preventing an early attack on southern Norway. In addition, Bornholm, Greenland, and the Faroes provide unique intelligence and early warning

facilities for the Alliance.

Norway and Denmark count on Sweden and Finland to delay the Soviets initially and give warning of an attack. According to the US defense attache in Oslo, senior Norwegian military commanders believe the Finns would fight but ultimately would be ineffective against greater Soviet forces, while the Swedish Air Force initially would delay Soviet attempts to transit Sweden en route to Norway. The US defense attache in Copenhagen reported that the Chief of the Danish Defense Staff believes it is "nearly certain" that the

Soviet Union would occupy Finland in the initial phase of a NATO-Pact war, and that this would draw Sweden into the war. He believes that Sweden has capable ground and air forces that could not be defeated without the diversion of major Warsaw Pact units from Central Europe.

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Both Norway and Denmark base their strategy on maintaining sufficient national forces to resist and impede an attack by Soviet and Warsaw Pact ground, amphibious, and airborne forces and to provide time for NATO reinforcements to arrive. In peacetime, however, they maintain limited active duty forces that perform primarily training and support functions. For these forces to perform their wartime role, the reserves and Home Guards would have to be mobilized quickly.

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Table 4 NATO Reinforcement for Norway and Denmark, and Pre-Positioning

Type of Reinforcement	Units Involved	Description	Destination
Regional reinforcement for AFNORTH b			
Ground	United Kingdom Mobile Force (UKMF) c	UK 1st Infantry Brigade (13,500 men) and supporting elements	Earmarked for Denmark but could be deployed elsewhere
	Canadian Air Sea Transportable Combat Group (CAST CG)	4,000 to 5,000 men, light infantry force trained in mountain arctic warfare	Assigned to Norway; will arrive in the Narvik-Bardufoss area.
Air	13 US squadrons	289 aircraft	, 5 squadrons to Denmark 8 squadrons to Norway
	3 UK squadrons	36 aircraft	2 squadrons to Denmark 1 squadron to Norway
	2 Canadian squadrons	20 aircraft	2 squadrons to Norway
Regional amphibious assault reinforcements for AFNORTH	UK/NL amphibious force	3rd Commando Brigade Royal Marines (UK); "Whiskey" company and the 1st Amphibious Combat Group of Royal Netherlands Marines	Earmarked for Norway, Narvik- Bardufoss area, but could be deployed elsewhere.
	US II MAF (Marine Amphibious Force)	One MAB (Marine Amphibious Brigade) has approximately 14,000 personnel and includes infantry, artillery, combat services support equipment, and an organic aviation combat force including two air defense squadrons, two close support squadrons, and 75 heavy transport and light support helicopters.	4th MAB earmarked for Norway (Trondheim) area. Remainder of II MAF would be sent to Norway or Denmark, as determined by CINCNORTH. (One MAU—Marine Amphibious Unit—is deployed with US Sixth Fleet) (one MAB would deploy to Iceland.)
SACEUR's strategic reserve	1/2 0.1 J. C		AFNORTH has planning priority over
Ground	US 9th Infantry Division d		AFCENT and AFSOUTH.
	US 5th Mechanized Infantry Division d		A TO LONG THE ANALYSIS OF THE
	US 24th Mechanized Infantry Division		AFNORTH has lowest priority for these forces.
	US 101st Air Assault Divisiond		
Air	1 UK squadron	12 aircraft	Norway or Denmark or elsewhere in
	8 US squadrons	180 aircraft, including F-111, F-16, F15E, A-10, A-7, F/RF-4	the Alliance.
SACLANT forces	STANAVFORLANT	5 to 8 frigates/destroyers	Could be deployed to Norwegian Sea to provide carrier air support to North
	STRIKFLTLANT	2 to 4 aircraft carriers and 140 to 380 combat aircraft	Norway or to North Sea to support BALTAP and AFCENT.
ACE mobile force			
AMF (land)	Units from Belgium, Canada, West Germany, Italy, Luxembourg, United Kingdom, and United States	Approximately the size of a heavily reinforced brigade, including combat support and combat service support units.	Would deploy either to Northern or Southern Flank, but not both. Could deploy to Norway or Denmark, al- though Norway has first priority.
AMF (air)	Squadrons from Belgium, Canada, West Germany, Italy, Netherlands, United Kingdom, and United States		Simultaneous deployment to both flanks is possible. Could deploy to Norway or Denmark.

a Availability: The number of days required from the day of mobilization before the units are placed at the disposal of a NATO

commander in the area of his command.

AFNORTH: Allied Forces Northern Europe, headquartered near Oslo, Norway; includes territory of Norway, Denmark, Schleswig-Holstein, and Baltic approaches.

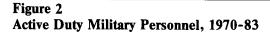
c The composition of these units would vary according to the wartime scenario and other needs, because portions of these units would be contributed to NATO's AMF (land) forces.

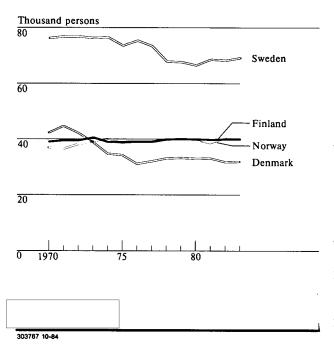
d These US forces also have national contingency plans, which could make them unavailable for their possible NATO mission of

reinforcing Western Europe.

Table 4 (continued)

Pre-Positioning	Method of Transport	Availability (Transmit Time Included) ^a
None	Sea	5 to 15 days
Over-snow vehicles.	Sea	3 weeks (14 days plus 7 days warning)
POL, ammunition, drop tanks, and maintenance equipment are stocked at eight Norwegian airfields, six of which will be protected by I-HAWK air defense missile systems leased from the United States. Denmark prestocks ammunition for US air squadrons and is negotiating to do the same for UK squadrons.	Air	Depends on scenario
All-terrain vehicles, snowmobiles, and equipment prestocked in northern Norway.	Sea	1 week
Following is being pre-positioned for MAB that is earmarked for Norway: 24 155-mm howitzers, bridging equipment, 250 trucks, 100 trailers, ammunition, food, and fuel (30 days of these latter supplies). Norway will provide approximately 150 all-terrain vehicles, two motor transport companies, one ambulance company, one refueler section, and engineering and airbase support equipment.	MAB to Norway	By air: 5 to 6 days (given pre- positioning equipment and supplies) By sea: 18 days
	Remainder of MAF to AF NORTH via sea and airlift	60 days
None	Sea	Approximately 25 days
None	Sea	Approximately 30 days
None	Sea	Approximately 30 days
None	Sea	Approximately 40 days
None	Air	Depends on scenario
None	Sea	8 days
Equipment, fuel, and ammunition are stored at Bardufoss, Norway.	Air	6 days
	Air	2 days





Norway and Denmark reason that the deterrent value of their armed forces and NATO reinforcements, combined with their restricted peacetime NATO roles in NATO, enable them to provide for their defense without unnecessarily arousing Soviet threat perceptions. They prohibit the stationing of foreign troops and the storage of nuclear or chemical weapons in their countries in peacetime. In addition, Norway prohibits foreign troops from exercising in Finnmark—the province adjacent to the USSR—and foreign reconnaissance aircraft and ships from leaving Norwegian bases to operate east of 24 degrees east longitude.

Norwegian Forces. The Norwegian Army is basically a light-infantry force. The only active duty unit—Brigade North—is located in the north where initial conflict is expected to occur (see figure 3). In the event of a crisis, three brigades will mobilize in the south and deploy northward; nine other brigades will mobilize in central and southern parts of the country.

US forces on Greenland, which is constitutionally part of Denmark, are excepted.

Norwegian planners expect their Home Guard forces to mobilize within four hours and to act as covering forces while regular army units are mobilized.

Norway has been hampered by insufficient funding both for maintaining adequate peacetime strength and reserve training programs and for modernizing its forces with advanced weaponry. A lack of funds in the 1984 budget, for example, caused three units of Brigade North to be eliminated in peacetime, weakening the brigade's armor and artillery readiness. The small Norwegian standing forces would be heavily dependent in wartime on rapid mobilization of welltrained reserves to mount a defense until NATO reinforcements arrived. The potential diversion of US reinforcements, normally earmarked for NATO, to areas outside of NATO Europe has resulted in Allied agreement on the need to organize additional reserve combat units and to increase the readiness of existing reserve forces. Norway, however, not only is not planning to organize new reserve combat units but also has allowed further cuts in its standing forces and has overlooked critical deficiencies in reserve training programs.

Personnel costs increasingly are creating problems for the Norwegian armed forces, especially for the manpower-intensive army. The US Embassy in Oslo reported in May 1984 that "the liberal and costly legislation of Norway's welfare state," when applied to the armed forces, created a situation in which personnel costs would skyrocket if unchecked. Specifically, the Work Environment Law, first applied to the civilian economy in 1977, was extended to the military in 1981 with bipartisan support. The new law reduced working hours, raised pay scales, and increased overtime and sick leave compensation. Other costly measures instituted in recent years include a new and expensive officer assignment system and an increase from four to five per year in the number of free trips home for all military personnel based in northern Norway. As a result of these social welfare laws, the military has ceased wherever possible all overtime and weekend assignments and has limited training.

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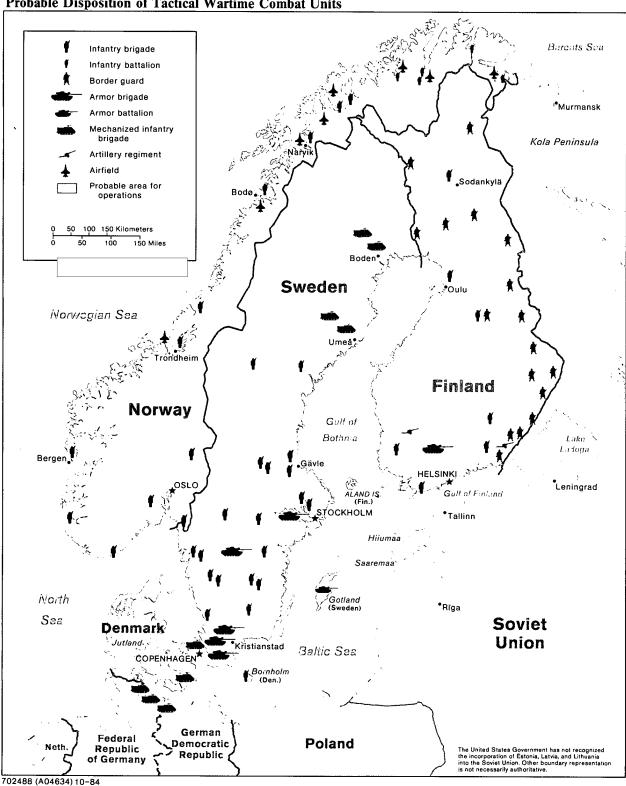
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Figure 3 Probable Disposition of Tactical Wartime Combat Units



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Increased personnel costs also have made it difficult for the government to allocate sufficient funds to procure new weapon systems, whose prices also have escalated. Moreover, it is more and more expensive for Norway to maintain, operate, and upgrade the obsolescent equipment it cannot afford to replace. The net effect of all of these pressures is that Norway has made little progress in modernizing its ground forces with advanced weapon systems:

- Norway has procured small numbers of advanced antitank guided-missile (ATGM) systems—the USmade TOW system—but still relies heavily on obsolescent rocket launchers and recoilless rifles for most of its antitank capability. For each of certain key munitions, Norway has no more than 60 percent of the number of combat days of supply required by NATO (see table 5).
- While the Norwegians have procured most of the electronic warfare equipment for existing ground forces called for by NATO, they have not formed additional electronic warfare units because of a lack of funds for the necessary personnel.

The Norwegian Air Force's primary missions in wartime include anti-invasion—primarily antishipping—and air defense tasks. The Air Force has some 70 attack and air defense aircraft in four operational squadrons. The Norwegians have no plans to form additional combat squadrons through mobilization; most reservists would augment air defense artillery units, serve in general work companies, and perform security duties. Civilian airlines and private aircraft would greatly enhance the Air Force's transport capabilities, although it is unknown how the aircraft holdings of Scandinavian Airlines (SAS) would be divided among the three SAS participants—Norway, Denmark, and Sweden

Norway has procured F-16 aircraft but has not replaced older aircraft on a 1-for-1 basis. In 1970, for example, Norway had 95 F-104Gs and F-5s, but these have been replaced with only 72 F-16s. Good progress, however, has been made in implementing a program to upgrade key command and control networks and thereby to increase the F-16's effectiveness. Norway awarded a contract in late 1983 to develop and produce a command and control information

Table 5

Current and Projected Combat

Days of Stored Ammunition a

	1983	1988	
Norway			_
155 mm	11.2	13.2	
81-mm mortar	18.6	21.0	
TOW missiles	18.9	17.1	
Denmark			
105 mm	10.0	8.9	
155 mm	8.8	11.0	
203 mm	9.4	8.4	
Mortar ammunition (81 mm, 120 mm)	17.3	14.9	
TOW missiles	15.0	30.0 ь	

^a The NATO requirement is 30 days. Current and projected days of supply are based on NATO estimates—developed in 1982—of average ammunition expenditure rates in combat.

system (CCIS) that will provide northern European commanders with timely and accurate data for improved air defense command and control and battle management. The CCIS will support offensive air operations by supplying timely data on logistics and the status of communications networks, aircraft maintenance, and fighting forces within the commanders' areas of responsibility.

The Norwegian Navy is responsible for defending the coast from amphibious attack, protecting Allied and coastal shipping, and operating coastal artillery guns. The Navy has 14 coastal submarines (only 10 of which are operational) and eight frigates, but most of the fleet consists of small combatants such as patrol boats and missile attack boats. Upon mobilization, some Navy reservists would be recalled to bring ship complements up to strength, but the majority of them

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b According to Danish projections but subject to available funds.

In recent years, Norway has substantially increased its fleet of missile attack boats with the addition of 20 Hauk- and Snoegg-class boats (see figure 4). These missile boats, equipped with Penguin II antiship missiles, probably would be effective against Soviet amphibious forces. In the estimation of the US defense attache office in Oslo, however, the Norwegian Navy eventually would be unable to stop an opposing naval force because of insufficient numbers of antiship missiles.

Danish Forces. Denmark's peacetime ground forces—with some 18,000 men—consist of three understrength brigades, which would be expanded to two divisions with a total of six brigades after mobilization. The Danes also have a Home Guard that, like the Norwegian Home Guard, would engage in guerrilla operations and perform surveillance, reconnaissance, bridge and road demolition, traffic control, and civilian evacuation duties. In wartime, the primary mission of the Danish ground forces is to defend Danish territory and to participate in the defense of Schleswig-Holstein.

The Danish Army is hampered by its small size and inadequate reserve training, and its dependence on reserves has increased substantially as the standing army's strength has fallen by about 25 percent since the early 1970s. Despite NATO requirements to organize additional reserve combat units and to increase the readiness of existing reserve forces, Denmark has no plans to form additional reserve combat units and plans only small improvements in reserve refresher training.

Denmark has tried to avoid firm commitments to specific procurement projects, and Danish defense planners have deferred crucial decisions from year to year. As a result, ammunition and munitions stockpiles are deficient. For example, the Danes met only 50 percent of NATO requirements for TOW ATGMs in 1982. The most critical shortfall in ammunition reserves—which should amount to enough for 30 combat days—is in the army's artillery ammunition (see table 5).

The Danish Air Force, one of the smallest in NATO with about 90 combat aircraft, would have only a limited role in wartime. It would be expected to defend Danish airspace, protect additional airspace as directed by NATO, provide airlift and air-sea rescue support, and provide a control and warning system for the Danish Defense Command. As in the case of Norway, Danish F-16s, which now number 55 and will reach 67 by 1989, will not replace older aircraft on a 1-for-1 basis. Denmark, however, has decided to improve its air defense command and control abilities with CCIS. Further, Denmark became in late 1983 one of the first countries in the Alliance to inaugurate a special radar/ground control station (known as NAEGIS) for AWACS aircraft.

The Danish Navy is tasked with mining the Baltic Straits and defending the coasts of Denmark. Its fleet consists primarily of smaller combatants—corvettes and missile and patrol boats—and mine warfare vessels. As in Norway, some naval reservists would be used to bring ships to full strength, and passenger vessels could be used for troop transport and logistic support.

The focus of NATO recommendations for Danish naval forces has been on improving survivability and combat effectiveness. Unless critical shortfalls in the number of combatants are rectified, however, we believe any improvements will have little effect (see figure 4). Denmark is especially weak in an area where it should play a coequal role with the West German Navy: minelaying. Only one of Denmark's four minelaying-capable vessels is designed as a minelayer. Two other vessels are out of commission, and the fourth is a training ship. Further, US officials in Copenhagen believe that the lack of skilled personnel

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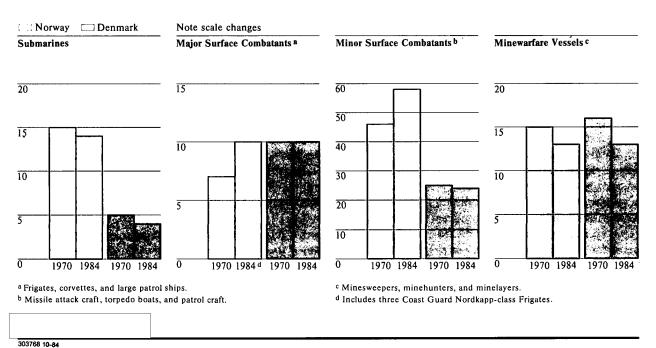
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Figure 4 Norwegian and Danish Naval Combatants, 1970 and 1984



at Danish mine depots—and the impending retirement of many of the mine specialists—already have caused the Danes to institute unsafe practices in storing and handling their mines. Denmark also has no air-droppable mine capability, and its minehunting capability ended in 1980 when maintenance of minehunting equipment was discontinued.

Cooperation With NATO. Norwegian and Danish programs designed to support NATO wartime reinforcements have had mixed results. Both countries have committed merchant ships and domestic civil aircraft to assist in implementing NATO's Rapid Reinforcement Plan and to facilitate the arrival of troops and equipment. However, only Norway has made substantial progress in pre-positioning weapons and supplies for ground forces.

Norway provides temporary storage space for US Marine pre-positioned equipment near Trondheim and has partially financed construction for permanent sites. Negotiations are still under way with the United States and NATO over who will supply the remaining

funds necessary to blast rock caverns near Trondheim to create permanent storage sites. Norway also stores some equipment for Canadian, British, and Dutch troop reinforcements. As part of the compromise in which central Norway was chosen as the location for pre-positioned equipment for US troops, Oslo obligated itself to prestock equipment in northern Norway for additional Norwegian forces that would reinforce the north in a crisis. Denmark does not yet pre-position supplies for US ground forces.

Both Norway and Denmark participate in the Colocated Operating Bases (COB) program, in which NATO fuel, spare parts, and ammunition are stored at their airfields for use by reinforcing NATO air squadrons. The Danes began building stores of ammunition for seven NATO air squadrons in 1982, and

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we expect them to complete stores for US air reinforcements this year. The ammunition for the COB program currently is being stored away from Danish airbases because no NATO funding has been available to construct ammunition depots on bases. The requirement for jet fuel stocks sufficient for seven days of combat has been almost totally met at Norway's eight COB bases, but COB ammunition stocks are largely inadequate. Oslo and Copenhagen reason that pre-positioning enables more rapid air reinforcement and increases the risk for the Soviets of early US involvement in a conflict.

Both Denmark and Norway also participate in joint Allied naval, air, and ground exercises in their countries. In late 1983, more than 11,000 troops of the Allied Command Europe (ACE) Mobile Force (AMF) 6 took part in a four-week field exercise in Denmark. This exercise is conducted annually and demonstrates the AMF's ability to deploy to Denmark rapidly and to conduct joint defensive operations with the Danish military. An AMF amphibious exercise also is conducted biennally in late winter in northern Norway with British, Dutch, Canadian, US, Italian, and West German forces. The most recent in the series of NATO exercises took place in February and March 1984 with the 36th US Marine Amphibious Brigade participating. With 25,000 troops involved, it was the largest military exercise in Norway since World War II and was designed to demonstrate NATO solidarity and resolve.

Sweden

Unlike the Nordic NATO countries, Sweden has no promised military reinforcements from outside the country. The Swedes instead place high value on projecting the image of a neutral state that—while nonthreatening to its neighbors—is independently capable of seriously injuring a potential aggressor. Under the concept of "total defense," all facets of Swedish society have a role in ensuring military, civil,

economic, and psychological preparedness.8		
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Defense Policy and Strategy. In peacetime, Sweden is strictly nonaligned and conducts an often activist foreign policy committed to disarmament and arms control. In wartime, according to Stockholm's official policy, Sweden would remain neutral in any conflict unless there were an invasion or attempted transit of Swedish territory or airspace.

In Stockholm's judgment a conventional war between NATO and the Warsaw Pact would be fought largely in Central Europe, and the resources that either side could employ for operations on Swedish territory would be limited. Swedish planners recognize that the primary threat is posed by the Warsaw Pact and believe that, given adequate warning, their forces would be capable of inflicting heavy losses on Pact forces and perhaps even of repulsing the attack.

A forward defense doctrine is a key aspect of Sweden's defense plans. This doctrine, also referred to as "peripheral defense," stresses reliance on high-technology air and naval units to meet an attacker early with massive firepower at and beyond Swedish borders. Another defense doctrine that now has vocal but limited political support is "territorial defense." This concept holds that Sweden should rely on a large conscript army that would be equipped with inexpensive but efficient weapons and would harass the enemy throughout the country, causing attrition and an eventual enemy withdrawal. This concept would limit Swedish air and naval power and not attempt to stop an aggressor at the borders. The US Embassy in Stockholm reported in late 1982 that the territorial doctrine had support primarily in the Social Democratic Party. Even if Swedish defense planners do not now support territorial defense, the high costs of forward defense eventually could become unmanageable and lead to greater interest in this doctrine.

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⁶ The AMF, formed in 1960, is NATO's highly mobile, conventionally armed, immediate reaction force. The force, with land and air components, is designed to be able to deploy quickly to a threatened area of ACE to serve as a deterrent and provide defense.

In alternate years with no AMF exercises, the Norwegians hold extensive national amphibious exercises with US, British, and Dutch forces. Following the large-scale AMF or national Norwegian exercises each year, British and Dutch forces also participate in field exercises in northern Norway.

The "total defense" concept is the mobilization of all available resistance forces, including local defense forces, the Home Guard, civil defense units, and general resistance by the civilian population. Local defense forces are generally older reservists who, when recalled to active duty, serve near their home city, town, or village. The Home Guard is a paramilitary organization composed mostly of volunteers who are trained by the armed forces to perform surveillance, reconnaissance, guerrilla, bridge and road demolition, rear-area security, traffic control, and civilian evacuation duties.

	new weapon systems, including the TOW ATGM and 155-millimeter (mm) howitzers. These systems, together with additional armor and all-terrain and over-	25X1
	snow vehicles, have enhanced the Army's firepower and mobility. After the standard infantry brigades have been modernized, Sweden's four Norrland bri-	25/1
	gades 'will be similarly equipped to enhance their capability to defend northern Sweden.	25X1
	The Army's reorganization and weapons purchases support a war-fighting doctrine that is moving away	
Although Sweden maintains no official or military ties with NATO, unofficial bilateral military cooperation takes place with Norway and Denmark as well as with the United States. It is largely confined to sharing information on each other's military capabilities and those of the Warsaw Pact, and to arms sales agreements. Despite these limited arrangements,	from massed, defensive operations in favor of more mobile, extended, and independent operations in difficult terrain. According to US defense attaches in Stockholm, however, major ground force deficiencies still exist in chemical-biological-radiological (CBR) defense—particularly in chemical defense—and in night operations. The Army also continues to be	
there are indications that Sweden at least tacitly would rely on NATO in a crisis.	inadequately funded for training. US military observers of Swedish exercises have reported that squad-	25 X 1
would fely on 14A10 in a crisis.	and platoon-level training appears credible, but that training at battalion and brigade levels is rare. Spending limitations also preclude training in joint opera-	25X1
US defense	tions.	25 X 1
attache reporting in late 1982 also indicated that a Soviet invasion of Finnish Lapland en route to Norway would result in Swedish mobilization and the deployment of forces to northern Sweden. At the prospect of such an invasion, Sweden also planned to hint at an interest in NATO membership to deter a Soviet attack on Sweden. We believe it is more likely	Sweden's Air Force, with over 400 combat aircraft, is the largest in Scandinavia. Mobilization is expected to provide enough pilots and navigators within three days to man each operational combat aircraft. Other mobilization personnel would be used to fully man and protect the Air Force's wartime dispersal airfields	
that, in such circumstances, Sweden simply would	and road runways.	25 X 1
cautiously enhance its military cooperation with the Nordic NATO states.	Swedish air defense capabilities have been enhanced by the Air Force's procurement of the Viggen multir-	25 X 1
Forces. The small standing Swedish Army—some 46,000 men—is responsible in peacetime for training conscripts and is not designed to form the nucleus of the wartime army. Instead, combat and support units would be organized and mobilized fully within seven days, according to the Swedes, although they admit	ole combat aircraft, which is replacing older, J-35 Draken aircraft in both interceptor and ground attack roles. The Air Force also is benefiting from radar improvements in its air command and control and surveillance system and from preparation of additional highways to serve as dispersal runways.	
this could take longer if no suitable civilian transpor-		25X1
tation and communications were provided.	'The Norrland brigades are mechanized infantry units specially	25 X 1
The Army is completing a major reorganization and modernization. It is reequipping 11 of 19 wartime infantry brigades with field and antiaircraft artillery, antitank missile systems, and tracked and over-snow	trained and equipped for arctic warfare.	25X1

vehicles. Since 1970, the Army has received several

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The Swedish Navy is a coastal force based primarily on submarines and patrol boats. Navy and coast artillery forces are responsible for defending Sweden against seaborne invasion and for protecting coastal shipping. Naval planning is based on the immediate dispersal of ships in wartime and on the rapid expansion of operational forces through mobilization, with full mobilization to be accomplished within 30 days. Most smaller vessels probably could be manned for dispersal within hours of an alert and by full mobilization crews within two to three days. The Navy's two older and larger destroyers, stored in nonoperational "ready reserve" in peacetime, would require at least one month for mobilization and shakedown training.

According to the US defense attache in Stockholm, the Navy has evolved since the early 1970s from a blue-water force of large oceangoing vessels to a small-unit fleet centered around submarines and missile attack boats, and emphasis on antishipping warfare has increased. The number of submarines, however, has been cut in half to 12, and the force of 16 destroyers, cruisers, frigates, and corvettes has been reduced to two Halland-class destroyers. These 16 surface combatants are being replaced with new classes of missile attack boats—25 are currently in the inventory—armed with a Swedish-built RBS-15 antiship missile system, and with new mine warfare vessels.

Finland

Because of Finland's strategic location between East and West, the goal of its operational doctrine is deterrence; the Finns hope that potential aggressors will conclude that, in the long run, the costs of combating Finnish forces would be too high. Finnish defense strategy is based on a territorial defense concept. Finland has a small standing army and would rely on its Border Guard force to delay an enemy advance while ground force units were mobilized. Finnish soldiers generally are well trained in individual military skills and are highly motivated. The small Air Force is organized and equipped primarily for air defense operations. The Navy, which also would require substantial mobilization, is essentially a coastal defense force made up largely of missile-equipped patrol boats.

Defense Policy and Strategy. Finnish defense policy has been affected by the special relationship between Helsinki and Moscow, stemming from their Friendship, Cooperation, and Mutual Assistance (FCMA) Treaty signed in 1948 and renewed periodically. The treaty obliges Finland to employ "all the means at her disposal for the defense of the inviolability of her territory on land, on sea, and in the air . . . with the assistance, in case of need, of the Soviet Union, or jointly with the latter" in the event that Finland, or the Soviet Union through Finnish territory, is attacked by West Germany or a West German ally. The treaty calls for consultations between Helsinki and Moscow if the threat of such an attack arises.

Regardless of the treaty, the Finns—apart from arms purchases—have remained firmly opposed to any military collaboration with the USSR, and such consultations have never been held. The Finns prefer to characterize the FCMA Treaty as differing markedly from a military alliance, pointing out that it preserves their sovereignty and independence of action and that it is defensive in nature—aimed at preventing the aggravation of any crisis in the region. Nevertheless, Helsinki remains sensitive to any new developments—including NATO intermediate-range nuclear force (INF) modernization in Western Europe ¹⁰—that conceivably could cause Moscow to become uneasy and invoke the treaty.

Finnish sensitivity to Moscow's concerns over military activities in the Nordic area has been responsible for Helsinki's stress on both nonalignment and arms control. Finnish diplomats are active in arms control and disarmament discussions in and outside of the United Nations; Helsinki, for example, was the site of

¹⁰ The Finns fear that NATO deployment of air- or sea-launched cruise missiles in the Norwegian Sea could cause Moscow to call for military consultations under the terms of the treaty. Helsinki's greatest worry is that the Soviets might try to install forward air defense batteries in Finland, on the grounds that Finland is not capable of defending its airspace.

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the Conference on Security and Cooperation in Europe (CSCE) negotiations in 1975 and of the preparatory meetings for the Conference on Disarmament in Europe (CDE) in 1983. Finland also has promoted in principle an ongoing dialogue over the past two decades concerning a Nordic nuclear-weapons-free zone as a confidence-building measure in northern Europe.

The US defense attache in Helsinki reports that most Finnish defense planners believe that the greatest threat to Finnish security would be air or ground transit of Finnish territory by an aggressor, en route to a third state. Finnish tactical doctrine does not call for a massed, conventional, peripheral defense at the border because the Finns assume that Soviet forcesthe most likely aggressor—would be superior in firepower and mobility. Instead, the Finns would rely on a strategy of area defense, similar to the territorial defense doctrine espoused by some Swedes. The Finns plan to make an invasion as costly as possible by deploying their major ground forces to protect essential areas and by conducting guerrilla warfare in occupied areas. Key areas are population centers, especially Helsinki, or terrain deemed critical for defending the population centers.

The Border Guard—the only fully manned peacetime ground units and the first line of defense against an invasion-would be expanded from company to battalion size with reservists. Its job would be to delay an enemy advance as long as possible and provide a covering force to allow the Army to mobilize. The Border Guard also would identify the main thrusts of an invasion. Thereafter, Army, Border Guard, and local defense forces would conduct small-scale operations—rarely above platoon size—using guerrilla warfare tactics to delay the enemy's advance, cut his lines of communication, and divert as much of the enemy force as possible to rear-area security and occupation tasks. Finnish forces would be concentrated only where the enemy had been weakened and could be engaged in decisive battles. Finnish tactics would take advantage of the country's difficult terrain, harsh climate, and limited road network: Finnish soldiers are highly skilled outdoorsmen and skiers and would make extensive use of camouflage, road mining, and ambushes. The Finnish Navy, which would rely heavily on mobilized reservists, is expected to support

ground force activities through limited amphibious operations and to carry out defensive minelaying and minesweeping, patrol and escort tasks, and antisubmarine operations. The Air Force would attempt to provide surveillance and air defense against intruding aircraft and missiles, with primary emphasis on defending population centers and important government and military facilities

Forces. The Finnish Army has been held constant over the years at about 31,000 men, by international treaty. The Army's one armor and seven infantry brigades are manned in peacetime with a skeleton cadre responsible for training conscripts. To improve the Army's ability to respond rapidly and effectively to invading ground forces, the Finns have brought into their inventory a substantial number of domestic, Swedish, Norwegian, and French antiarmor weapons and new domestic armored vehicles. They also have acquired additional Soviet T-55 tanks and have bought—but have not yet received—an unknown number of T-72 tanks from the Soviets. The Finns, recognizing the strategic value of the north, are strengthening firepower and support elements of some units in Lapland. The Army still suffers, however, from a lack of mechanization and mobility, limited numbers of air defense and antitank weapons, the age of these weapons, poor CBR defenses, and a short conscription period. Unit training above platoon or company levels is rare, and reserve training, while improving, is still infrequent. The diversity of equipment sources—the Soviet Union, Sweden, and various NATO countries—also has caused logistics problems.

The Air Force modernization program has focused on improving both air defense and tactical support capabilities. The air defense force has been improved by the acquisition of Soviet MIG-21bis Fishbed-N all-weather fighters, which have replaced obsolescent MIG-21F Fishbed-C/E day fighters; the Finns also are buying 20 secondhand Draken fighter-bombers from Sweden. Obsolete trainers and tactical support aircraft are being replaced with Finnish- and Britishmade aircraft. The Finnish air defense radar system is

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being upgraded to improve air surveillance capabilities. Despite its air defense improvements, however, the Finnish Air Force is unable to counter Soviet fighter and helicopter support of Soviet assault forces. The Air Force also has a minimal transport capability, even if civilian resources are mobilized.

The Finns, like the Swedes, are planning for a Navy based essentially on missile attack boats." Over the next several years the aging combatant fleet will continue to be replaced by a new force of small, fast patrol boats armed with Swedish antiship missiles. The first missile attack boat of a squadron of four has been delivered; the Finns hope to build a total of three squadrons in the coming decade. Finnish minelaying capabilities also have been improved by fitting minelaying equipment to a number of vessels that are not normally used for minelaying, including 13 fast patrol craft and nine utility landing craft. Overall, a short operating season,12 infrequent reserve training, and rapid turnover of conscripts limit the Navy essentially to a coastal surveillance and protection role. Survivability is further reduced by the lack of air cover for sea operations, limited CBR defenses, and little or no electronic warfare capability.

Force Outlook for the 1980s

Nordic defenses will continue to suffer well into the next decade from the shortfalls that exist today: the need to upgrade their forces with advanced weaponry, to improve their logistic support structures and stockpiles of ammunition and spare equipment, and to enhance combat effectiveness through more comprehensive and frequent reserve training. At the same time, we expect governments will continue operating in a political environment that makes allocating more money to defense difficult. Within constrained defense budgets, governments will have to make hard choices between capital improvements and expenditures for personnel and training. Personnel costs are especially burdensome in Norway, Denmark, and Sweden because military personnel are paid competitively with civilians as a result of pressure from military unions and laws providing for overtime compensation.

Norway and Denmark

Both countries face difficult choices in allocating defense resources, but Oslo seems in a better position than Copenhagen to bear the political and economic costs of force modernization. At the least, all major Norwegian parties agree that Norway must not become—like Denmark—a "footnote" member of the Alliance.

Political Factors. In both Norway and Denmark there is wide support for NATO membership though not for increased spending to support NATO goals. A poll in Denmark in May and June 1984, for example, showed that 64 percent of those polled supported NATO membership. The poll also suggested, however, that support for NATO does not translate into support for improving Danish defense capabilities, even if the improvements would raise the nuclear threshold: only 36 percent of respondents favored increased defense expenditures even if it would reduce dependence on nuclear weapons. About 65 percent of the respondents to a similar Norwegian poll in early 1983 agreed that NATO membership contributes to Norwegian security, but a far smaller percentage of Norwegians would back a defense spending increase larger than the currently planned real growth rate of 3.5 percent. A nationwide poll in February 1984 found that only 32 percent of the respondents felt defense expenditures should be increased in response to the exposure of Are Treholt as a Soviet spy.

Conflict over INF policy appears to have created a climate for further controversy over other security issues. For example, leftist and opposition press and academic articles in Norway in the last year or so have criticized alleged US pressure on NATO to adopt a new, more offensive strategy in the north, including cruise missile deployments in the Norwegian Sea. These articles have claimed that any such changes in NATO strategy are a shift toward an offensive posture impinging on Norway's longstanding policy of keeping tension low throughout Scandinavia

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[&]quot; Finland is prohibited by the Paris Peace Treaty of 1947 from acquiring a submarine force.

¹² Severe ice conditions render the Navy virtually inactive from December through March

but especially in northern Norway. In Denmark, some Social Democrats seem prepared to push for a Nordic nuclear-weapons-free zone, despite the tacit assumption on the part of the Danish and Norwegian Governments, as well as other NATO members, that NATO reinforcements would bring tactical nuclear weapons with them to the Northern Flank in a crisis.

Although controversy over security issues is sure to continue, the lack of clear alternatives to NATO's collective security makes it unlikely that either country's membership in the Alliance will be questioned by parties in power, the major opposition parties, or the public over the next several years. Even though the major opposition parties in both countries have used anti-INF resolutions to attack their ruling governments, they all have prodefense factions that probably will prevent radical departures from current security arrangements. In May, for example, moderates in the Danish Social Democratic Party were able to soften a proposed party resolution that in its original form would have banned nuclear weapons from Danish soil even in wartime; the final version of the resolution adopted by Parliament—called on the government to work within NATO for a Nordic nuclear-free zone. Also in May, moderates in the Norwegian Labor Party were able to agree with the government on a new security policy consensus: the agreement called for government efforts to support leftist objectives like a nuclear freeze and nuclear-free zones but also preserved enough flexibility to permit continued backing for NATO nuclear policy.

Defense Spending. Until last year, Oslo had planned 4-percent real increases in annual defense budget growth between 1982 and 1987. The conservative coalition government, however, reduced the goal to 3.5 percent in response to pressure by the smaller coalition parties to commit additional funds to civil defense—which were not part of the defense budget. Even this goal could prove difficult to meet because Norway has no provision for automatic increases for higher-than-expected inflation, relying instead on Parliament to pass supplementary allocations. Moreover, the opposition Labor Party has indicated publicly that it would reduce the real growth rate to 3 percent if it is returned to power in the general election in September 1985. US officials in NATO estimate that even 4-percent annual real growth in

defense spending would not have allowed Norway to complete its national military modernization plans or to achieve NATO goals before the late 1990s.

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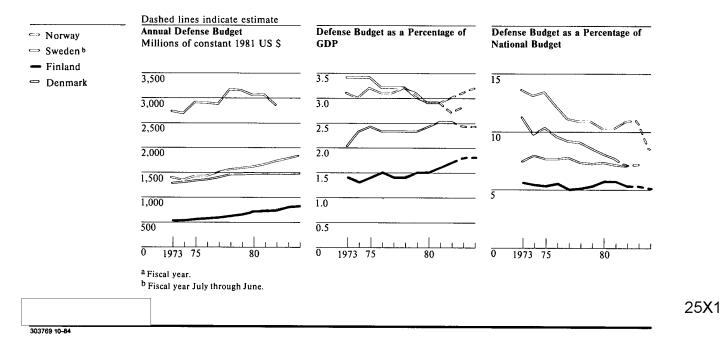
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Norway's limited defense funding has resulted from political restraints placed on real growth in the defense budget—not, as shown by growing government receipts from North Sea oil production, from a lack of financial resources for government programs. There has been a gradual decline since the early 1970s in the percentage of the total Norwegian national budget used for defense. Denmark, on the other hand, has borrowed heavily to finance national expenditures and maintain "the good life." Cutbacks in Danish Government spending, when deemed necessary, cause consternation among Danes primarily because of their effect on social welfare spending and only secondarily because of their impact on defense spending. The proportion of the Danish national budget spent on defense has not declined as precipitately as that of Norway, but it still ranks below the Norwegian defense budget (see figure 5).

In April 1984 NATO officials estimated that Denmark would require a real growth rate of 2.3 percent through 1990 in its defense spending to enable Copenhagen to meet its most important force goals. In late June the government and opposition parties reached agreement on a three-year defense program that will reaffirm perceptions within NATO that Denmark is not fulfilling its financial commitments to the Alliance. Current Danish projections show that the real growth of defense budgets for 1985-87 will be only 0.1 to 0.6 percent; in addition, according to US attache reporting, previous procedures for fully adjusting the defense budget for inflation and exchange rates will be changed to cover only material and equipment procured outside Denmark. Allocations for material procured in Denmark and operations and maintenance expenses will be adjusted for only 2-percent inflation, although inflation is currently at about 7 percent in Denmark. This practice could result in

Figure 5
Defense Spending Trends, 1973-84^a



slightly negative real growth in defense spending, but the decrease probably will be no greater than earlier in the decade (see table 6); for example, the 1981-84 Danish defense spending plan called for an annual average real growth in the defense budget of 1.5 percent, while cuts in actual defense budgets during the period resulted in real growth of less than 1 percent.

Impact on Programs. Norway faces severe problems in establishing priorities among its modernization programs, particularly in making trade-offs in the allocation of scarce resources for high-technology, high-cost weapon systems to replace equipment obtained from the United States in the 1950s and 1960s (see table 7). Norwegian officials are planning to increase the capital investment share of the defense budget from 20 to 25 percent by 1988 and to 30 percent by 1993 by limiting the growth of operations and maintenance expenditures. US military officials expect the trade-off between investment and operations to require more restrictions on training and thus to reduce overall operational readiness.

Funding problems for the Army have delayed from 1990 until at least 1998 the reorganization and modernization—to the "Brigade 90" standard (see inset, "Changes in the Norwegian Brigade Structure")—of nine of Norway's 13 standing and reserve brigades and have caused cancellation of improvements for another three brigades. In the near term, only one Army unit-Brigade North-will be improved to the Brigade 90 standard by receiving additional infantry and artillery units and antitank and air defense weapons. The US defense attache in Oslo has reported that pre-positioning for Norwegian forces that would reinforce the north has been delayed by a lack of funds for new equipment. It now appears that the Army will pre-position a mix of new and old equipment, some of which may be provided by disbanding one brigade in the south.

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Table 6
Real Growth in Defense Expenditures

Percent

Fiscal Year	Norway	Denmark	Finland a	Sweden b
1984	3.5 °	-0.6 c	1.0 °	0 c
1983	4.0	0.8	9.0 c,d	−6.7 °
1982	4.1	-0.3	2.0	0.2
1981	2.7	0.6	1.3	-3.0
1980	1.8	0.7	8.1	-0.5
1979	1.9	0.2	4.8	10.1
1978	7.8	4.1	5.6	-0.8
1977	1.5	3.3	3.1	-0.4
1976	0.4	1.8	2.5	8.2
1975	5.2	2.4	5.0	-1.6
1974	-3.6	1.6	-0.3	-1.2
1973	1.9	-2.8	-0.5	NA

^a Does not include funding for the Border Guard, which in peacetime falls under the Ministry of the Interior.

The Army faces additional problems. The US defense attache in Oslo estimated in March 1984 that, because of reserve training deficiencies, about two weeks of combat training would be essential for any Norwegian brigade before committing it to combat. Ammunition stockpiles continue to be low; Oslo will not have a 30-day war reserve stock until 1989, even though NATO set this standard in 1967 and has since revised it upward. In addition, Oslo has no plans to meet midterm or long-term NATO requirements for antiarmor helicopters. Plans to modernize 78 Leopard I tanks have been suspended because of lack of funds.

NATO has urged Oslo to establish a force strength of 90 NATO-committed F-16 aircraft as replacements for its F-104s and F-5s, but Oslo is unlikely to add more than eight to 12 F-16s to the 70 F-16s already in its inventory. Moreover, pilot retention problems have forced Norway to scale down the number of operational F-16 aircraft in its NATO-committed squadrons from 64 to 58. The all-weather capability of the

F-16 in its air defense mission will be unusable because the Air Force does not have radar-guided airto-air missiles. Moreover, the F-16's anti-invasion/antishipping mission will continue to be undermined by a less-than-30-day supply of air-to-surface munitions until the new Penguin III missiles become operational in the late 1990s. Norway also has told NATO that by 1988 it will have to rely almost totally on US reinforcements for fighter reconnaissance because it will have only two operational RF-5A aircraft by that time and does not plan to replace them.

One bright spot in future Air Force capabilities is the measures Norway has taken to improve air defense protection of bases where US equipment is prepositioned for NATO reinforcements. Oslo agreed in 1983 to lease six I-HAWK ¹³ batteries (18 launchers) from the United States and to buy new acquisition radars and fire control equipment. The batteries will be operational in 1987 and will be deployed at Andoya, Bardufoss, Evenes, Bodo, Orland, and Vaernes.

Except for its missile attack boats, Norway's surface fleet and submarine force are aging. While replacement programs are planned, most have been deferred because of inadequate funding: the first of six new coastal submarines to replace 14 Kobben-class submarines will not be delivered until 1989; the startup of a program to modernize and extend the service life of Oslo-class frigates was delayed from 1983 to this year; replacement of fast patrol boats has been deferred until the 1990s; and construction of new minesweepers and minehunters will not begin until after 1988. Moreover, plans to procure twelve 120-mm guns for the coast artillery were reduced in 1983 to eight guns. To save on fuel and personnel costs, naval vessels are being placed in reduced readiness status. For example, a fourth Kobben-class submarine will be decommissioned and placed in a nonoperational condition, leaving only 10 operational submarines. A

¹³ The Norwegian designation will be NOAH, for "Norwegian-adapted HAWK."

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^b The Swedish fiscal year is July through June; 1984 figure, for example, is for the 1983-84 fiscal year.

c Estimates.

^d This figure resulted from a decision to make up for earlier, leaner years with increased defense funding, including two supplements in 1983.

Table 7
Selected Norwegian Modernization Programs

Item	Quantity/Source	Comment
F-16 aircraft	72/US and European consortium	Delivery to be completed in 1984. Two have been destroyed in crashes.
Improved HAWK	6 batteries/leased from United States	For airfield air defense. Operational in 1987. Option for two additional batteries.
Acquisition radar and fire control equipment	24 radars/to be produced by United States and Norway	18 for I-HAWK; 6 for L-70 antiaircraft artillery.
Submarine	6/West Germany	Delivery from 1989-93, with option for two additional submarines. West German Type 210 submarines; Norwegian designation is Type 6071.
120-mm gun	8/Sweden	First of three coastal defense batteries to be operational in 1987.
105-mm gun	38/United States	Upgrade for M-48 tank, completion by 1988.
SAM RBS-70	6 batteries/Sweden	Total of 108 firing units and 1,296 missiles by 1988. Two batteries already delivered.
BV-206 all-terrain vehicle	205/Sweden	Up to 150 probably will be placed at disposal of US reinforcements.
Modernization of Oslo-class frigates	5 ships	Sonar, fire control system (radar, communications), engineering, and hull modifications.
Modernization of Sleipner-class corvettes	2 ships	Sonar improvements.
Penguin III	Domestic	Air-to-surface antiship missile under development and designed for use on Norwegian F-16s.

second frigate is being decommissioned as well, leaving only three operational. Norway has decided to install improved Penguin antiship missiles in its Osloclass frigates but will not modernize its current minesweeper/minehunter force until the late 1980s.

Norway's P-3B maritime surveillance aircraft suffer from serious electronics failures and technician shortages that, according to Norwegian assessments, could force Olso to deactivate the squadron by 1986 or 1987. Because Norway does not allow other countries to fly reconnaissance missions from Norwegian bases over the Barents Sea east of 24 degrees east longitude, the P-3B force is critical for surveillance of Soviet naval movements from the Kola Peninsula. The US Embassy in Oslo reported in March that the Norwegians were leaning toward extending the service lives of its P-3B aircraft rather than buying an updated model, the P-3C.

The Norwegian Chief of Defense has admitted that Norway will not be able to maintain its defense capabilities relative either to a Warsaw Pact attack or to previous Norwegian standards. Frigate modernization, pre-positioning for US Marines and Norwegian troops, and the acquisition of F-16s, I-HAWKs, and submarines represent crucial first steps in the improvement of Norway's ability to receive, support, and defend NATO reinforcements. Nevertheless, Oslo has committed itself only to the highest priority programs, passing other pressing defense requirements to reinforcing nations—for example, the US Marine Amphibious Brigade will bring its own transport helicopters and ground attack aircraft. Finally, shortfalls in training, war reserve stocks of ammunition, CBR defense equipment, and electronic warfare equipment probably will continue to hamper Norway's ability to mount a sustained defense against a Warsaw Pact attack.

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Changes in the Norwegian Brigade Structure

Current Infantry Brigade a

- 3 infantry battalions
 - 3 rifle companies
 - 1 support company
 - 1 mortar platoon
 - 1 antitank platoon
 - 1 engineer platoon
 - 1 headquarters company
- 1 field artillery battalion
 - 3 batteries
- 1 headquarters company
- 1 reconnaissance company
- 1 armored antitank company
- 1 engineer company
- 1 air defense artillery company
- 1 signal company
- 1 military police platoon
- 1 service battalion
- ^a This structure represents a typical infantry brigade; actual organization may vary from brigade to brigade.
- b The Norwegians envision that, if operationally necessary, Brigade 90 units could be reinforced by a fourth infantry battalion. Norway also has plans to add a tank battalion to Brigades North, South, and 12.

Brigade 90 b

- 3 infantry battalions
 - 4 rifle companies
 - 1 support company
 - 2 mortar platoons
 - 2 antitank platoons
 - 1 strengthened engineer platoon
 - 1 headquarters company

1 field artillery battalion

• 4 batteries

No change

Denmark's poor compliance with NATO goals and its deferral of crucial procurement programs suggest that the Danes are minimizing their self-defense efforts and are consciously increasing their reliance on Allied reinforcements (see table 8). Moreover, even if force improvement plans for the Army were implemented, we believe the Army would have serious difficulty holding ground until NATO reinforcements arrived.

The Danish defense agreement—between government and opposition parties—for 1985-87 reportedly will give more resources to the Danish Army than it has received in the past. The period of training for conscripts in combat and engineer units will be increased from nine to 12 months, but this increase probably will do little to improve the Army's readiness because peacetime manning of the two Zealand and three Jutland brigades is only 21 to 34 percent of

wartime authorized strength. The Danes also plan to increase gradually the number of conscripts undergoing initial training and to provide more reserve refresher training afterward; these improvements in training will be slow because Denmark is well below current NATO goals for reserve training. These measures apparently will take place at the expense of recruiting and retaining regular enlisted personnel and the manning of the peacetime army will decline. The US defense attache in Copenhagen estimates that personnel reductions could cause the Army to become uncomfortably reliant for manpower on mobilization, while the number of professional regulars on which the mobilization forces can build will be smaller.

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Table 8
Selected Danish Modernization Programs

Item	Quantity/Source	Comments
Multimission ship	16 ships by 1992/domestic	Standard Flex 300 program. Patrol, minelaying, countermeasures, surveillance vessels. Funding and schedule uncertain.
Submarine	3/undetermined source	Funding and timing uncertain; leasing from West Germany being considered.
F-16 aircraft	58/US and European consortium	Delivery completed in 1983. Three have been destroyed in crashes.
F-16 aircraft	12/US and European consortium	Follow-on buy, to be completed by mid-1989.
AIM-9L air-to-air missile	200 planned/European consortium	Fuze and test equipment would be obtained from United States.
Improved HAWK	4 batteries/leased from United States	Surface-to-air missile system for air defense of air bases.
TOW	600/United States	ATGM. Purchase planned to begin in 1984.
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The defense agreement contains few specifics on procurement plans, and prospects are not bright. Plans to acquire additional 155-mm howitzer ammunition, for example, are subject to conclusion of a joint purchase from the United States by Norway, Sweden, and Denmark. Details of the purchase of a new lightweight antitank weapon have not been finalized. The Danes have not yet decided what model of shortrange air defense system to procure. Plans for replacing Centurion main battle tanks have been delayed until 1988, and decisions to buy new antitank helicopters and armored personnel carriers have not yet been made. Denmark continues to depend on antiquated antiaircraft gun systems for air defense: the Army is equipped only with the US Redeye man-portable surface-to-air missile (SAM) and older gun systems.

The Danish Air Force has too few fighters to mount effective air defense operations. Denmark has a total of 55 F-16s in its inventory and has agreed to a follow-on purchase of 12 more. At a total strength of 67 aircraft, the Danish inventory will remain well below the NATO requirement of 80. To reduce fuel costs, Denmark also has limited annual pilot training to 180 flying hours (the minimum recommended by NATO). In fact, Danish pilots had an average of only

147 hours of flying time in 1983, and the US defense attache in Copenhagen reports that the Danish Air Force is pessimistic about meeting the NATO goal in 1984 or thereafter.

Despite the Danes' intentions to buy Sidewinder airto-air missiles and electronic warfare defense equipment, the Danish defense agreement contains no details about specific plans. Denmark also is likely to stretch out procurement of air-to-surface missiles, despite its current inability to maintain a full 30-day supply. Reconnaissance capabilities also are likely to worsen. Denmark's three Gulfstream aircraft are not sufficient to patrol all of Danish territorial waters, but the purchase of more surveillance aircraft has been ruled out for lack of funds.

The Danish Navy is faced with a slow but persistent decline in the size of its submarine and surface fleets:

• Two of Denmark's four submarines (down from five in 1970) are scheduled for retirement by 1988 with no firm replacement plans. As an interim measure, a decision to lease three new submarines was made this year as part of the new defense agreement.

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- Beginning in 1985, almost a dozen obsolete ships will be decommissioned or scrapped. In particular, a program to extend the service life of Denmark's six Sund-class minesweepers, which was already delayed one year from 1984 to 1985, has been further cut in that only two vessels will be modernized and the remaining four will be scrapped.
- Denmark's two frigates will not be modernized or replaced, and no new crew will be trained for these ships after 1986, when they will be placed in reserve storage.
- The US naval attache in Copenhagen has reported that some Danes view a program for a new vessel—the Standard Flex 300 ¹⁴—as a means of eliminating some types of Danish navy vessels and reducing the Navy to a one-boat-class fleet. The Social Democrats have apparently offered tentative support for the program if Danish defense planners would agree to eliminate the submarine force. NATO has expressed concern, however, that the Standard Flex vessels will begin to enter service only after the vessels they are replacing have been scrapped, leaving a gap in Danish naval capabilities in the late 1980s and early 1990s.

We have serious doubts about Denmark's ability to carry out its NATO missions through the rest of the decade. The Army's weaknesses almost certainly mean that West Germany could expect little support from Denmark in defending southern Jutland, which lies across the approaches to Hamburg—a presumed key target for Pact forces. Moreover, the decline in the number of minelayers, patrol ships, minesweepers, and submarines will seriously degrade NATO's efforts to control and monitor the Danish straits, or to mine the straits speedily before hostilities occur. The West Germans in particular have spoken out publicly about their uneasiness over being left by Denmark with the only viable NATO submarine and minelaying forces in the Baltic.

¹⁴ Danish development plans describe the Standard Flex 300 as a multipurpose, modularized patrol craft designed to conduct minelaying, minesweeping, minehunting, surveillance, patrol, or antiship missions through its ability to accept a variety of weapons payload modules. The prototype will be available in 1987.

Sweden

Despite national concern over Soviet submarine incursions and calls from opposition moderates for increased defense spending, Sweden's poor economic prospects will constrain the government's ability to implement force modernization plans designed to compensate for the small size of its standing forces.

Political Factors. Although there is no perceptible move in Sweden to abandon neutrality, the controversy surrounding the highly publicized Soviet submarine incursions has led to the first thoroughgoing public debate about Swedish security policy since World War II. Prime Minister Palme has come under attack in recent months for playing down the Soviet threat—to stabilize Swedish-Soviet relations—in the face of demonstrated Soviet indifference to Swedish protests over the intrusions.

Opposition moderates—headed by Member of Parliament Carl Bildt—charge that the Swedish Government has been underestimating the Soviet threat and claim that the submarine incursions show that Moscow is actively preparing for war against Sweden. They call for correction of the "structural error" in Swedish security thinking about the USSR, charging that the heart of Swedish neutrality policy—its ability to defend its territory—is in serious doubt. To redress the decline in Swedish capabilities, they call for increased defense spending. Swedish military officers, who generally tend to be discreetly pro-West or even pro-NATO, also believe that the threat presented by intruding Soviet submarines will not disappear. Although no one is suggesting that Sweden abruptly abandon its neutrality, talk of closer ties with NATO—in the Swedish press and in academic discussions—is no longer immediately dismissed.

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Some members of the Swedish Government are concerned that even unofficial conjecture about Sweden seeking membership in or a military agreement with NATO would severely damage the credibility of Swedish neutrality. They fear that Moscow would perceive an increased Swedish threat to the Soviet northern flank and plan to invade Sweden early in a crisis.

Defense Spending. In real terms, Stockholm's defense budget increased only slightly through the 1970s; the parliamentary defense decision of June 1982 dictated a decrease in funds through 1992. The military initially was optimistic about accommodating the reductions without seriously jeopardizing force readiness. However, the 16-percent devaluation of the kronor in late 1982, higher-than-expected inflation, and continued application of the value-added tax to military purchases have resulted in a loss in buying power for 1982-87 of at least 5 percent as estimated by the Swedish defense establishment. The Social Democratic government and center-right opposition parties agreed in March 1984 to supplement the defense budget through 1987 to compensate partially for the costs caused by these factors; nonetheless, real growth in the defense budget still is expected to be about zero. The inflation rate for 1984 also is expected to be higher than the government forecast of 4 percent, the maximum for which the government has committed compensation.

Impact on Programs. In spite of recent declines in the size of its military, Sweden continues to deploy the largest and best-equipped armed force in Scandinavia. With little or no real growth in defense budget resources, however, Stockholm will face a real challenge in implementing ambitious modernization plans intended to compensate for the smaller force Sweden fields today. The Swedes believe that increasing reliance on high-technology weapon systems, together with extended use of existing equipment, will enable them to maintain their defense capability (see table 9). Most basic equipment will continue to be produced domestically, but acquisitions of advanced weapons—especially missiles and aircraft—may suffer because of high costs of research and development.

Planned acquisitions include the following:

- The new JAS-39 Gripen multirole combat aircraft is the key to modernization of the Air Force and will preserve its principal role in Sweden's peripheral defense strategy. By the year 2000, 140 Gripen are to be acquired, with another 100 to 200 fighters to follow. Because about one-third of the aircraft's components come from foreign sources, however, currency fluctuations could affect the cost of the program and lead to smaller production runs. If the program's spending ceiling is reached, legislation calls for a shortened production run, use of simulators instead of aircraft for pilot training, and less weaponry on the attack version of the aircraft. There already are indications that the Gripen's costs will be trimmed by using less sophisticated electronics, which Sweden has had to buy from the United States. Another Air Force project involves improving command, control, and communications capabilities and includes the development of an airborne early warning capability—far less capable than the US AWACS—to supplement ground-based radars.
- New submarines, mine warfare vessels, and missile attack boats will maintain the Navy's ability to fulfill its coastal anti-invasion mission. Extra appropriations for antisubmarine warfare (ASW) equipment are likely to improve the ASW inventory, including Navy and Air Force ASW helicopters, but Sweden's ability to improve its ASW training and expertise probably will be crucial in determining the Swedes' ability to detect, pinpoint, and intercept future intruders.
- The Swedish Army is planning new acquisitions to improve its capabilities, including antitank helicopters and more effective antitank weapons (the TOW, RB-56 BILL, and Swedish AT-4 ATGMs) and small arms (new assault rifles from Belgium). The Swedes also have decided to develop a new infantry fighting vehicle, equipped with antitank weapons, which should enter production in the early 1990s. However, development of an experimental articulated armored combat vehicle, the UDES-XX20, was canceled this year because it was too expensive and the vehicle was too heavy for operations in northern Sweden.

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Table 9
Selected Swedish Modernization Programs

Item	Quantity/Source	Comments		
J-39 Gripen	140 by year 2000/domestic	Multirole combat fighter.		
Air-to-air missile	800/United States	Sidewinder AIM-9L missiles for JA-37 Viggen.		
Diesel attack submarine	4/domestic	A-17/Vaestergotland class. Delivery by late 1980s.		
Mine countermeasures vessels	6/domestic	M-80/Landsort-class combined minesweeper/hunter.		
Missile attack boat	2/domestic	Spica-3/Stockholm class. Planned delivery by 1985-86.		
Missile attack boat	4/domestic	Goeteborg class. In design stage; may have minelaying and some ASW capabilities.		
Malin ASW weapon	Domestic	Magnetized acoustic detection device. In production.		
Elma ASW weapon	Domestic	Depth charge/mine designed to disable submarine. In production.		
BV-206 all-terrain vehicle	4,500/domestic	Transport, antitank, and mobile command post missions.		
BILL	Domestic	ATGM in test stage.		
TOW	United States	ATGM. Approximately 250 launchers and 2,900 missiles have been received. Total missile buy may reach approximately 4,500.		
Improved RBS-70	Domestic	Surface-to-air missile system to be produced in the late 1980s. Total number unknown.		
AT-4	Domestic	84-mm ATGM system being tested.		
BO-105 antitank helicopter	20/West Germany	Will be armed with TOW. Delivery by 1987.		

The expense of operating large surface combatants already has caused Sweden to mothball its once-extensive frigate and destroyer fleet. Similarly, the cost of high technology for Air Force weapon systems could result in reduced capabilities for the JAS aircraft. The net result would be an erosion of Sweden's capability, in accordance with its forward defense strategy, to meet an aggressor beyond its borders at sea or in the air. The coming decade therefore could bring increased emphasis on Army modernization and a strategy more akin to Finland's.

Finland

Although Finnish financial resources for defense are smaller than those of other Nordics, Helsinki appears determined to demonstrate Finnish commitment to the defense of Lapland. There is a strong consensus for strengthening air defense forces in the north, and the Army's Lappi Brigade has priority in receiving new equipment.

Political Factors. Public discussion of security policy in Finland usually focuses on foreign perceptions of Finnish intentions and capabilities—for example, Finnish ability to defend Lapland or take measures against cruise missiles—rather than on possible changes in the tenets of Finnish security policy—independence, neutrality, and good relations with the USSR. Approximately 94 percent of Finnish respondents to a poll in the fall of 1983 believed that Finnish foreign policy was well managed. The consensus on security issues extends across virtually the entire political spectrum, although the Communist-front People's Democratic League has been absent from the government coalition since December 1982 because of its objections to a modest increase in the 1983 defense

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budget. There seems to be little public inclination in Finland to cut defense spending; about half of the respondents to the poll approved of current Finnish defense expenditures while approximately one in three favored an increase and one in seven favored a decrease in the defense budget. More recently, Finnish newspapers reported that 81 percent of 18- to 25-	Despite improvements in both air defense and tactical support capabilities, we believe the Air Force will still face severe difficulties in attempting to defend Finnish airspace against hostile aircraft and cruise missiles, largely because of gaps in the low-altitude radar network and an inadequate aircraft control and warning system.	25X1
year-old Finns polled in May 1984 believed defense forces were necessary. Nearly one-half believed that the Army was insufficiently equipped and could not guarantee the security of Finland.	The Navy will continue to be limited by inadequate training and CBR equipment and by its small size, although its mine warfare capabilities will be	25X1
Defense Spending. Since the early 1970s the Finnish defense budget has remained fairly constant at rough-	strengthened by the acquisition of new minesweepers and naval mines. The Navy would also benefit if all 12 missile attack boats were built, although only four	25/1
ly 1.5 percent of the gross domestic product and 5.4 percent of the total national budget. ¹⁵ The govern-	are planned.	25 X 1
ment's 1984 budget bill—and two supplementary appropriations—did not call for an increase in resources for defense. It provided insufficient funds to implement fully the recommendation of the Third Parliamentary Defense Committee in 1981 to upgrade all the services by 1986. The Finnish armed forces reportedly believe that the budget will at least	The major weaknesses of the Finnish Army are a lack of mechanization and mobility and insufficient antitank and air defense weapons. To make up for these deficiencies, the Finns are stressing mobility and antiarmor improvements over the next several years. Armored personnel carriers, 155-mm howitzers, and over-snow and adverse-terrain vehicles are being procured. Other planned purchases include night-vision	
fund initial production and delivery of crucial programs currently under multiyear contracts. Other programs probably will be stretched out rather than	devices and communications equipment.	25X1
Impact on Programs. Finland has a small force modernization program extending through the rest of the decade and the Finns have a good chance of meeting their limited goals (see table 10). Finnish modernization plans call primarily for replacement of obsolescent equipment and not for significant enhancement of defense capabilities. The US defense attache in Helsinki reported last October that the Finns will complete their modernization programs for the Navy and Air Force in this decade and will begin	We believe Finland's efforts before the late 1980s to redress deficiencies will not upgrade its defense forces enough to deter the Soviets if Moscow were determined to invade the country en route to Norway. The lessons of the Winter and Continuation Wars of the early 1940s notwithstanding, Finnish "spirit" cannot compensate for defense forces that simply are too small—with too few resources—to present a credible threat to a superpower determined to use Finnish territory or airspace. Nevertheless, the Soviets would have to weigh carefully their objectives in light of Finnish guerrilla resistance, which probably would be	25X1
modernization for the Army before 1990. Low funding levels are expected to result in procurement delays	fierce.	25X1
but not in cancellations.		25 X 1
¹⁵ US defense attaches in Helsinki point out, however, that some defense expenditures are covered by the budgets of other government ministries. Retirement pay for the military, for example, comes out of the social welfare budget. Moreover, personnel costs are lower than for the other Nordic countries because Finnish		
conscripts are paid very little.		25X1

Table 10 Selected Finnish Modernization Programs

Item	Quantity/Source	Comments		
HAWK trainer aircraft	4/United Kingdom; 46/copro- duced with United Kingdom	Delivery between 1980 and 1985.		
J-35F Draken	20/Sweden	Refurbished aircraft to be used for air surveillance. Delivery in 1985.		
Missile attack boat	4/domestic	Helsinki-class prototype delivered. Others to be delivered by 1986.		
RBS-70 missile	Sweden	Surface-to-surface antiship missile for Helsinki-class ships.		
Patrol boat	7/domestic	For Sea Guard. First boat received in early 1983.		
T-72 tank	Approximately 150/USSR	Exact number and delivery schedule uncertain.		
Armored personnel carrier	300 to 500/largely domestic but some may be obtained from the USSR	50 from a Finnish firm. Decision on remainder expected in 1984. Two Finnish firms are top contenders.		
155-mm howitzer	20/domestic	Delivery by 1987.		
AIM-9-P-2	100-200/Sweden	Air-to-air missile for Draken and Hawk aircraft.		
TOW	20/United States	ATGM. Additional purchase of 40 under consideration.		
Radar	United Kingdom/United States/domestic	Modernization of surveillance and air traffic control radar.		
BTR-60 PU command vehicle	USSR	Exact number and delivery schedule unknown.		

Implications for the United States and NATO

NATO has traditionally focused its attention on Central Europe, while largely ignoring the flanks. Recently, however, military strategists have come to recognize the strategic implications of a weak Scandinavia, and there is growing concern that the region might be drawn into a European confrontation. From Moscow's point of view, seizure of northern Norway and the Danish straits would be critical to safeguarding the access of its Northern and Baltic Fleets to the Norwegian and North Sea and to protecting Soviet forces in the region. Occupation of strategic airfields and ports in Norway and Denmark would enable Soviet forces to attack targets in Central Europe and interrupt NATO's reinforcement lines across the Atlantic.

The declining ability of Sweden and Finland to modernize their forces increases the vulnerability of NATO states in the region. Given their inability to repel Soviet forces in the long run, Sweden and Finland could face occupation or falter in their political will to resist Soviet pressures for transit or basing

rights. Finland probably is more susceptible than Sweden to these pressures because of its comparatively weaker forces, its long border with the Soviet Union, and its obligations under the FCMA Treaty. The ability of Norway and Denmark to compensate for a weakening Swedish-Finnish buffer, or even to redress fundamental deficiencies in their own defenses, will continue to be constrained by domestic political and economic considerations.

Stockholm may see some advantage to increasing security cooperation with the West, but decisions to do so will depend on whether Soviet violations of Swedish territory continue and on how Stockholm views provocative and cavalier Soviet responses to Swedish protests. Constraints on improving Swedish defense capabilities also could prod Stockholm to strengthen its ties to Western defense. In the near-to-middle term, however, it is doubtful that Swedish moves would extend beyond seeking armaments cooperation agreements and limited joint wartime contingency planning.

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Crucial gaps exist in the capabilities of Nordic air defense, ground, and naval forces despite limited efforts in all four countries to procure SAMs, combat fighters, artillery, missile attack boats, mine warfare vessels, and antitank weapons. Unless substantial initiatives are programed and funded in the next two to three years—which is highly unlikely—major force improvements cannot take place before the end of the decade because of the long leadtime needed for funding, weapons development, and procurement. Furthermore, because of insufficient manpower, training time, and low stocks of missiles, spare parts, and fuel, the Nordics would suffer to varying degrees from readiness and sustainability problems.

As a result of these gaps in their capabilities, successful defense of Norway and Denmark probably will become more critically dependent on the early commitment and arrival of NATO air and ground reinforcements. But there are several obstacles to the timely arrival of effective aid:

- Pre-positioning of equipment in northern Norway for Norwegian reinforcements has been slowed because of a lack of national and NATO funds for building permanent storage sites. The Danes also are experiencing problems in securing national and NATO funding for storing supplies for reinforcing air squadrons.
- With the exception of one Canadian brigade, NATO reinforcements are not tasked solely with aiding Norway and Denmark. If they were needed elsewhere during a crisis, the Northern Flank would be all the more vulnerable.
- The key non-US NATO nations expected to provide reinforcements—the United Kingdom, the Netherlands, and Canada—face economic problems of their own that threaten their capability to aid Norway or Denmark.

These problems mean that Norway and Denmark will probably increasingly expect the United States to provide assistance in times of crisis. Under current plans, the 14,000-man US Marine Amphibious Brigade would deploy to Norway with considerable airand ground-based firepower—air defense and close-support aircraft, helicopters, artillery, infantry, and

antitank weapons. The United States might well come under increasing pressure to earmark additional ground reinforcements. Oslo or Copenhagen also may ask the United States to increase its pre-positioning aid, most likely in the form of extra funding.

In the coming years, NATO will continue to emphasize major improvements in its conventional weapons to lessen reliance on nuclear weapons and reestablish confidence in current NATO strategy. Norway and Denmark, however, are not planning substantial improvements in their forces, and their capabilities in conventional warfare are likely to decline. Thus, both countries could be bringing on themselves a dilemma neither would wish to face. NATO planners may conclude that nuclear weapons are critical to both deterrence and defense in the region. But any consideration in peacetime of strategies for the Northern Flank that include use of nuclear weapons—except as a last resort—is politically out of the question in both Norway and Denmark.¹⁶ There is a long history in these countries of strong antinuclear sentiment across the political spectrum, and the conservative governments now in power would be reluctant to sanction such strategies. The return to power of a Labor government in Norway or a Social Democratic gov-

"Oslo and Copenhagen accept in principle NATO's strategy of flexible response, but they do not believe that a war necessarily can be fought better using nuclear weapons than conventional weapons. US 155-mm howitzers pre-positioned in Norway are nuclear capable (but not certified for nuclear missions), and Marine Corps A-6 Intruder aircraft can deliver nuclear weapons. For the past several years, NATO military authorities have been strongly urging that Denmark's 155-mm howitzer units be nuclear certified, but Copenhagen has declined for political reasons. In past training, some Danish artillery crews simulated procedures for storing and handling nuclear ordnance, but this training no longer occurs

ernment in Denmark would guarantee strong official

opposition.

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Thus, NATO could find itself unable to defend Scandinavia either conventionally because force improvement programs were incomplete and sufficient reinforcements were unavailable, or with nuclear weapons because prior planning had not occurred and because the Danish and Norwegian Governments would be extremely reluctant to sanction the use of such weapons. Nonetheless, NATO reinforcements moving into Norway and Denmark in time of war probably would have the capability to deliver tactical nuclear weapons. If the Danish and Norwegian Governments prohibited the use of such weapons, NATO would be faced with the prospect of the collapse of its Northern Flank.

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Appendix

Table A-1 Norway: Army Equipment Inventory

Table A-2 Norway: Air Force Inventory

	1970	1984	1988 a
Mortars	1,249	1,064	1,064
Light (60, 80, 81 mm)	1,116	938	938
Heavy (4.2 inch)	133	126	126
Antitank weapons	4,863	11,956	11,378
Rocket launcher (2.36, 3.5 inch)	3,597	2,557	2,557
Recoilless rifle (57, 75, 84 mm)	986	2,887	2,887
M-40 106-mm launcher	280	296	296
ENTAC ATGM launcher	0	28	0
TOW ATGM launcher	0	288	288
Missile	0	5,900	5,350
Field and air defense artillery (ADA)	522	1,235	2,264
Howitzer (105, 155 mm)	312	402	402
ADA (20 mm)	0	312	312
L60/70 ADA (40 mm)	210	128	128
RBS-70 SAM launcher	0	33	108
Missile	0	360	1,296
I-HAWK SAM launch unit	0	0	18
Armor	346	570	570
Tank (75, 90 mm)	148	139	139
Tank (Leopard 105 mm)	25	78	78
Armored vehicle b	173	353	353
Transport	10,701	13,318	13,445
Truck (1/4 to 6 tons)	9,862	10,077	10,077
Tractor	80	167	167
Trailer	759	344	344
Over-snow vehicle (BV-202)	0	2,200	2,200
All-terrain vehicle (BV-206)	0	78	205
Tank transport	0	2	2
Cross-country vehicle (Mercedes 240GD)	0	450	450
Army aviation	47	40	40
Utility aircraft	28	25	25
Helicopter	19	15	15

Estimates.

^b Includes armored personnel carriers, armored command vehicles, mortar carriers, armored recovery vehicles, and scout cars.

	1970	1984	1988 a
All-weather fighters	21	0	0
F-104G Starfighter	19	0	0
TF-104G	2	0	0
Fighter-bombers	0	100	82
F-16A	0	58 ь	58
F-5A	0	56 c	24
Day fighter CF-104s	0	13	0
Attack	74	0	0
F-5A	64 c	0	0
F-5B	10 d	0	0
Reconnaissance RF-5As	13	11	2
ASW warfare P-3B Orions	5	7 c	7
Trainers	21	25	25
Saab-91B Safir	21	0	0
F-16B	0	12	12
F-5B	0	13 d	13
Intermediate-range transport	6	9	9
C-130H Hercules	6	6	6
Fan Jet Falcon	0	3	3
Transport short range	8	4	4
DHC-6 Twin Otter	4	4	4
C-47A	4	0	0
Medium-lift support helicopters	0	39	39
UH1B Iroquois	0	23	23
Sea King MK 43 (SAR)	0	10	10
MK86 Lynx (SAR-ASW)	0	6	6
Utility helicopters	21	0	0
OH-13K Sioux	2	0	0
UH-1 Iroquois	19	0	0
Utility	38	39	39
O-IE Bird Dog	27	15	15
Piper L-18	11	8	8
MFI-15	0	16	16
SAMs	36	36	54
Nike Hercules launchers	36	36	36
Improved HAWK launchers	0	0	18

a Estimates

b Total F-16 buy would have been 60 F-16A and 12 F-16B, but 2 A models have crashed.

c Role has changed.

d Role has changed.

^c Two are Coast Guard assets.

Mortars

Table A-3 Norway: Naval Inventory

Table A-4			
Denmark:	Army	Equipment	Inventory

Light (51, 60, 80, 81 mm)

1970

2,276

1,946

1984

1,812

1,482

1988 a

1,812

1,482

	1970	1984	1988
Submarines			
Kobben class	15	14	10
Frigates	5	8	8
Oslo class	5	5	5
Nordkapp class (Coast Guard)	0	3	3
Patrol escorts			
Sleipner class	2	2	2
Patrol ships	0	11	11
Vadso class	0	1	1
Farm class	0	2	2
Nornen class Coast Guard	0	1	1
Leased vessels	0	7	7
Missile attack boats	20	39	39
Storm class	20	19	19
Hauk class	0	14	14
Snoegg class	0	6	6
Torpedo boats	26	8	0
Tjeld class	20	8	0
Rapp class	6	0	0
Minesweepers/minehunters			
Bluebird class	10	10	10
Minelayers	5	3	3
Raven (modified)	4	0	0
Borgen	1	1	1
Vidar	0	2	2
Utility landing craft	0	8	8
Auxiliary/yard service craft	7	8	8

	-,	-,	-,
Heavy (4.2 inch, 120 mm)	330	330	330
Antitank weapons	6,891	24,851	26,985
Rocket launcher (3.5 inch, 66 mm)	2,360	21,700	21,700
Recoilless rifle (75, 84, 106 mm)	531	958	958
M-10 76 mm antitank gun	0	23	23
COBRA ATGM launcher	NA	40	NA
Rocket	4,000	NA	NA
TOW ATGM launcher	0	60	154
Missile	0	2,070	4,150
Field and Air Defense Artillery (ADA)	819	953	953
Rocket launcher (762 mm Honest John)	8	8	8
Howitzer (105, 155 mm)	386	353	353
Gun (155 mm)	24	24	24
Howitzer (203 mm)	12	12	12
Gun (25 pounder)	69	0	0
L60/70 ADA (40 mm)	320	36	36
Redeye SAM launcher	0	520	520
Armor	1,161	1,043	1,043
Tank (75, 76, 84 mm)	272	171	171
Tank (Centurion 105 mm)	100	88	88
Tank (Leopard 105 mm)	0	120	120
Armored vehicles b	789	664	664
Transport	13,845	6,669	6,669
Truck (1/4 to 20 tons)	13,820	6,664	6,664
Trailer	25	25	25
Army aviation	2	36	36
Utility helicopter (Hughes 500)	0	16	16
Utility aircraft (L-18, T017)	2	20	20

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b Includes self-propelled guns, mortar carriers, armored recovery vehicles, armored personnel carriers, and scout cars.

Table A-5

Denmark: Air Force Inventory

Table A-6 **Denmark: Naval Inventory**

	1970	1984	1988 a	
All-weather fighters	28	30	0	_
F104G Starfighter	24	30	0	_
TF104G	4 c	0	0	_
Fighter-bombers	0	59	67	_
F-16A	0	44 b	52	_
F-35 Draken	0	15	15	_
Day fighters				_
Hunter F-51	21	0	0	_
Attack	37	20	20	_
F-100D Super Solve	37	0	0	_
Saab MFI-17	0	20	20	
Reconnaissance	16	17	17	_
RF-84F Thunderflash	16	0	0	_
RF-35 Draken	0	17	17	_
Trainers	45	30	24	_
Hunter T-53	2	0	0	
T-33	19	0	0	-
DHC-1 Chipmunk	22	0	0	_
Harvard T-6	2	0	0	_
F-16B	0	11	15	_
TF-104G	0	10 c	0	
TF-35 Draken	0	9	9	_
Intermediate-range transport	5	6	6	
C-54 (R5D) Skymaster	5	0	0	_
C-130 H Hercules	0	3	3	
Grumman Gulfstream III	0	3	3	
Transport-logistic				_
C-47	8	0	0	_
Medium-lift support helicopters				
Sikorsky S-61A	0	8	8	
Utility aircraft	12	0	0	
KZ-VII	8	0	0	_
PBY-61A	4	0	0	_
I-HAWK launchers (six per squadron)	0	24	48	_

	1970	1984	1988 ª
Submarines	5	4	2
Delfinen class	5	2	0
Narvhalen class	0	2	2
Frigates			
Peder Skram class	2	2	2
Corvettes	4	3	3
Airone class	4	0	0
Niels Juel class	0	3	3
Patrol ships	4	5	1
Hvidbjoernen class	4	4	0
Beskyttevren class	0	1	1
Missile attack boats			
Willemoes class	0	10	10
Torpedo boats	16	6	2
Brave	6	0	0
Falken	4	0	0
S-100 (modified)	6	0	0
Soloven	0	6	2
Patrol craft			
Daphne class	9	8	8
Minesweepers	12	6	2
Sund class (MSC-60)	8	6	2
Asvig	4	0	0
Minelayers	4	7	6
Falster	4	4	4
Langeland	0	1	0
Lindormen	0	2	2
Auxiliary/yard and service craft	7	17	14

a Estimates.

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b Total F-16 buy: 46 F-16A, two of which have crashed; 12 F-16B, one of which has crashed.

c Role has changed.

Table A-7 Sweden: Army Equipment Inventory

	1970	1984	1988 a
Mortars	1,000	1,000	1,000
Light (81 mm)	800	800	800
Heavy (120 mm)	200	200	200
Antitank weapons	8,392	28,673	30,775
Gun (37 mm)	400	0	0
Gun (75 mm)	60	150	150
Rocket launcher (74, 80 mm)	1,000	16,500	16,500
Recoilless rifle (84, 90 mm)	3,100	4,375	4,375
ATGM launcher (various)	3,832	4,500	4,500
TOW ATGM launcher	0	250	250
Missile	0	2,898	5,000
Field and air defense artillery (ADA)	864	1,713	1,713+
Gun (75 mm, 105 mm, 6 inch) 224	74	74
Howitzer (105, 155 mm)	240	919	919+
ADA (20 mm)	0	120	120
L60/70 ADA (40 mm)	400	600	600
Field and air defense artillery (ADA)	324	6,110	6,110
ADA (57 mm)	0	140	140
ADA (75, 105 mm)	200	0	0
Redeye SAM launcher	10	1,080	1,080
RBS-70 SAM launcher	0	252	252
Missile	0	4,500	4,500
I-HAWK SAM launch unit	NA	16	16
Missile	114	122	122
Armor	1,333	5,797	9,297
Light tank (M-74, IKV-71)	400	600	600
Tank (Centurion 84 mm)	320	110	110
Tank (Centurion 105 mm)	0	240	240
Tank ("S-tank" 105 mm)	246	335	335
Tank destroyer (IKV-91 90 mm)	0	284	284+
Armored vehicle b	367	968	968
Over-snow vehicle (BV-202)	0	2,260	2,260
All-terrain vehicle (BV-206)	0	1,000	4,500
Army aviation	48	67	87
Utility aircraft	12	31	31
Helicopter	36	36	56

a Estimates.

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^b Includes armored personnel carriers and armored recovery vehicles.

Table A-8 Sweden: Air Force Inventory

	1970	1984	1988 a		1970	1984	1988
Multirole combat aircraft				Trainers	245	229	229
JA-37 Viggen	0	40	149	SK-35C Draken	20	18	18
All-weather fighters	370	0	0	SK-60A (Saab-105)	120	129	129
J-32B Lansen	30 ь	0	0	SK-50 (Safir 91B/C)	60 c	0	0
J-35B Draken	50	0	0	T-6 Texan	45	0	0
J-35D Draken	100 €	0	0	Beagle Bulldog	0	50	50
J-35F Draken	ه 190	0	0	Sabreliner 40 SER	0	2	2
Fighter-bombers	0	164	144	SK-60B (Saab-105)	0	15	15
J-35D Draken	0	44 c	44	SK-37 Viggen	0	15	15
J-35F Draken	0	120 d	100	Intermediate-range transport	2	10	10
Utility Aircraft Canberra B-15s	2	0	0	C-130E Hercules	2	8	8
Day fighters	61	0	0	SE-210 Caravelle	0	2	2
J-35A Draken	35	0	0	Short-range transport	26	0	0
J-29F	26	0	0	C-47 Dakota	7	0	0
Attack	150	105	105	Vickers Varsity	1	0	0
A-32A Lansen	150	0	0	HS Dove (DH 104)	1	0	0
AJ-37 Viggen	0	81	81	Pembroke C-52	17	0	0
J-32B Lansen	0	24 ь	24	Medium-lift support helicopters			
Reconnaissance	91	58	58	Augusta-Bell 204B	6	8	8
S-32C Lansen	36	0	0	Utility helicopters			
S-35E Draken	55	0	0	Alouette II	0	6	6
SH-37 Viggen	0	39	39	Utility aircraft			
SF-37 Viggen	0	19	19	SK-50 Safir	0	50 e	50
ASW helicopters							
HKP-4 (Vertol 107)	10	10	8				

^a Estimates.

b c d e Role changes.

Table A-9 Sweden: Naval Inventory

	1970	1984	1988 a		1970	1984	1988 a
Submarines	24	12	12	Minesweepers/minehunters	34	28	29
Draken class	6	4	0	M-57 class	12	0	0
Hajen class	6	0	0	M-15 class	6	8	8
Sjoeorman class	5	5	5	M-51 class	6	0	0
Abborren class	6	0	0	Miscellaneous	7	0	0
Naecken class	0	3	3	Arholma class	1	0	0
Spiggen class (minisubmarine)	1	0	0	Orust class Arkoe class	0	0 10	0 10
Vaestergotland class	0	0	4	M-31 class		3	3
Destroyers	10	2	0	M-44/47 class	0	7	7
Oeland class	2	0	0	Landsort class	0	0	1
Destergotland class	4	0	0		1	12	12
Visby class	2	0	0	Alvsnabben	1	0	0
Halland class	2	2	0	Aclysborg class	0	2	2
Light cruisers				Carlscrona	0	1	1
Trekronor class	1	0	0	MUL-11	0	1	
Frigates				MUL-12	0	8	
Goeteborg class	3	0	0	Patrol craft	0	12	12
Corvettes				Skanoer	0	8	8
Mode class	2	0	0	Hanoe	0	4	4
Forpedo boats	42	10	0	Intelligence collection ships		·····	· · · · · ·
T-102 class	11	0	0	Orion	0	1	1
T-121 class (Spica I)	6	6	0	Submarine rescue ships	0	<u>-</u>	1
T-32	25	0	0	Auxiliary/yard and service craft	1	8	8
Norrkoping (Spica II) (T-31)	0	4	0	Helicopters	23	26	28
Missile attack boats	0	25	32	Vertol 107 (ASW)	3	10	12
Hugin class	0	16	16	Alouette II (utility)	10	6	6
Jaegaren class	0	1	1	Augusta-Bell 206A	10	10	10
Norrkoping (Spica II) (R-131) 0	8	12	(light-lift support)			
Stockholm class (Spica III)	0	0	2	_			
Goeteborg class	0	0	1				

Estimates.

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Table A-10 Finland: Army Equipment Inventory

Table A-11 Finland: Air Force Inventory

	1970	1984	1988 a
Mortars	1,751	1,595	1,595
Light (60, 81, 82 mm)	1,162	987	987
Heavy (107, 120, 160 mm)	589	608	608
Antitank weapons	713	10,980+	10,980+
Antitank missile (Vigilant)	250	0	0
Gun (75 mm)	183	0	0
Recoilless rifle (55, 95 mm)	100	780	780
Rocket launcher (66, 74 mm)	0	10,000+	10,000+
ATGM launchers	180	200	200
Field and air defense artillery (ADA)	2,013	1,909	1,909
Gun (75, 76, 90 mm)	706	594	594
Gun (107, 122, 130, 152, 155 mm)	189	285	285
Howitzer (105, 122, 150, 152, 155, 210 mm; 4.5 inch, 8 inch		1,030	1,030
Armor	205	318	868
Amphibious light tank (76 mm)	12	15	15
Medium tank (77, 84, 85, 100 mm)	155	189	189
Medium tank (T-72 125 mm)	0	0	150 b
Armored vehicle c	38	114	514 d
Transport			
Finland has in its inventory a wide variety of trucks, utility, and over-snow vehicles, but in formation regarding the exact number of Finnish holdings is not available.	- ;		

a Estimates.

^d Finland is procuring roughly 400 armored personnel carriers; the total number to be obtained could be as low as 300 or as high as 500.

	1970	1984	1988 ª
All-weather fighters			
Fishbed N	0	28	28
Fighter-bombers	0	24	44
J-35S Draken	0	24	24
J-35F Draken	0	0	20
Day fighters	28	22	22
Fishbed C/E	19	22	22
Gnat (Folland)	9	0	0
Reconnaissance/utility			······
Beagle	4	0	0
Trainers	102	101	87
CM-170 Magister Fouga	69	40	0
Midget	4	0	0
Mongol	2	4	4
Saab-91 Safir	27	0	0
TF-35 Draken	0	3	3
HAWK T-1	0	24	50
Valmet Vinka	0	30	30
Intermediate-range transport			
Gates Learjet 35A	0	3	3
Short-range transport	6	7	3
Douglas Skytrain	6	4	0
Fokker F-27	0	3	3
Medium-lift support helicopters	3	10	10
Hound	3	0	0
Hip	0	9	9
Bell Model 212	0	1	1
Light-lift support helicopters			
Augusta-Bell AB 206A	0	1	1
Utility helicopters	3	2	2
Hughes Model 500	0	2	2
Alouette II	2	0	0
AB 206A Jetranger	1	0	0
Utility aircraft	4	13	15
DHC-Beaver	2	0	0
Hunting Pembroke	2	0	0
Piper Chieftain	0	4	6
Piper Cherokee	0	9	9

a Estimates.

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^b Finland reportedly is to receive 150 T-72 tanks from the USSR, but the exact number and timetable are uncertain.

c Includes armored personnel carriers, armored infantry fighting vehicles, and armored cars.

Table A-12

Finland: Naval Inventory

	1970	1984	1988 a
Frigates			
Riga class	2	0	0
Corvettes			
Turunmaa class	2	2	2
Patrol ships			
Matti Kurki (UK Bay class)	1	0	0
Fast patrol craft	15	13	8
Dark class	2	16	1
Nuoli class	13	116	6
Hurja class	0	16	1
Missile attack boats	0	6	9
Helsinki class	0	1	4
Tuima/Osa II class	0	4	4
Isku class	0	1	1
Submarine chasers			
R class	0	5	5
Minesweepers	5	6	12
Raisio class	4	0	0
Rymattyla class	1	0	0
Kuha class ·	0	6	6
Unknown class	0	0	6
Minelayers	2	3	3
Keihassalmi class	1	0	0
Ruotsinsalmi class	1	0	0
Pohjanma class	0	1	1
Riga class	0	1	1
Miscellaneous	0	1	1
Utility landing craft	0	9 c	9
Auxiliary/yard service craft	2	9	15

^a Estimates.

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b Probably have minelaying capabilities.

c Also have minelaying capabilities.

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